Treating Addictive Behaviors

Processes of Change

APPLIED CLINICAL PSYCHOLOGY

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Treating Addictive Behaviors

Processes of Change

Edited by

William R. Miller

University of New Mexico
Albuquerque, New Mexico

and

Nick Heather

University of Dundee
Dundee, Scotland

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To

Lillian and Richard

W. R. M.

In loving memory of

Nicholas Heather

N. H.

Contributors

Helen M. Annis, Addiction Research Foundation, and University of Toronto, Toronto, Ontario, Canada

Claus-Peter Appel, Department of Applied Psychology, University of Lund, Lund, Sweden

Geir Berg, The Hjellestad Clinic, Hjellestad, Norway

Gerhard Bühringer, Addiction Research Group, Department of Psychology, Max-Planck Institute for Psychiatry, Munich, West Germany

Sabine Dehmel, Addiction Research Group, Department of Psychology, Max-Planck Institute for Psychiatry, Munich, West Germany

Carlo C. DiClemente, Texas Research Institute of Mental Science, Houston, Texas

Dennis M. Donovan, Department of Psychiatry and Behavioral Sciences, University of Washington, and Alcohol Dependence Treatment Program, Veterans Administration Medical Center, Seattle, Washington

Christopher P. Freeman, Department of Psychiatry, University of Edinburgh, and Royal Edinburgh Hospital, Morningside Park, Edinburgh, Scotland

Marcus Grant, Division of Mental Health, World Health Organization, Geneva, Switzerland

Nick Heather, Department of Psychiatry, Ninewells Medical School, University of Dundee, Dundee, Scotland

Reid K. Hester, Behavior Therapy Associates, Albuquerque, New Mexico

Joanne R. Ito, Department of Psychology, University of Washington, and Health Services Research and Development, Veterans Administration Medical Center, Seattle, Washington

Frederick H. Kanfer, Department of Psychology, University of Illinois, Champaign, Illinois

Franz Klett, Addiction Research Group, Department of Psychology, Max-Planck Institute for Psychiatry, Munich, West Germany

Simonne LeBreton, Addiction Research Foundation, Toronto, Ontario, Canada

Gloria K. Litman, Addiction Research Unit, Institute of Psychiatry, London, England

Barbara S. McCrady, Center of Alcohol Studies, Rutgers University, Piscataway, New Jersey

William R. Miller, Department of Psychology, University of New Mexico, Albuquerque, New Mexico

Jim Orford, Department of Psychology, University of Exeter, Exeter, England

James O. Prochaska, Department of Psychology, University of Rhode Island, Kingston, Rhode Island

Howard Rankin, St. Andrew's Hospital, Northampton, England

Martin Raw, Department of Psychology, St. George's Hospital Medical School, London, England

Bruce Ritson, Department of Psychiatry, University of Edinburgh, Andrew Duncan Clinic, Royal Edinburgh Hospital, Edinburgh, Scotland

Ian Robertson, Department of Psychology, Astley Ainslie Hospital, Edinburgh, Scotland

David Robinson, Addiction Research Centre, University of Hull, Hull, England

Arvid Skutle, The Hjellestad Clinic, Hjellestad, Norway

Stephen Sutton, Addiction Research Unit, Institute of Psychiatry, London, England

D. Adrian Wilkinson, Addiction Research Foundation, Toronto, Ontario, Canada

Preface

About a decade ago, psychologists began exploring the commonalities among alcohol and drug abuse, smoking, and obesity. The term *substance abuse* evolved into the current concept of addictive behaviors, which recognizes similarities with other behaviors that do not involve consummatory responses (e.g., pathological gambling, compulsions, sexual deviations). Professional societies and journals now have been founded in both Britain and the United States with the purpose of focusing on research and treatment in the area of addictive behaviors.

As the field has evolved, new models have emerged to address the questions and puzzles that face professionals. This volume examines some of these current issues and, in particular, explores common processes of change that seem to cut across the addictive behaviors. The chapters are based on papers presented at the Third International Conference on Treatment of Addictive Behaviors, which was held at North Berwick, Scotland, in August of 1984. The conference was organized around an integrative model of stages and processes of change that has been useful in organizing new knowledge about how to intervene with addictive behaviors. This model is set forth by its authors, Jim Prochaska and Carlo DiClemente, in Chapter 1. In Chapter 2, Fred Kanfer expounds his own model of self-regulation, which overlaps nicely with the Prochaska-DiClemente framework and provides a behavioral-theoretical context.

The remainder of the book is organized around stages at which clients come into treatment, and at which professionals are called on to intervene. Part II addresses issues of motivation for change. Marcus Grant opens this section with a commentary on the roles of the World Health Organization in engendering change in the addictive behaviors. Claus-Peter Appel explores applications of experimental social psychol-

ogy in general, and decision-making models in particular, to problems of individual client motivation. Jim Orford discusses research on the critical minimal conditions for change, and Steve Sutton reviews data on how smokers decide to quit.

Part III, the largest section of this volume, is a compendium of theory and research on how people change once they begin taking action to alter addictive behaviors. Miller and Hester, in two chapters, first survey current knowledge on the effectiveness of alternative treatments for alcohol abuse, then review research on matching clients with optimal intervention approaches. Geir Berg and Arvid Skutle present the results of an early intervention program for Norwegian problem drinkers. Chris Freeman discusses the eating disorders and raises controversial questions as to whether all of these should be classed with the addictive behaviors. Two chapters describe and evaluate behavioral treatment programs for drug abusers in Toronto (Wilkinson and LeBreton) and Munich (Dehmel, Klett, and Bühringer). The literature on smoking cessation methods is summarized by Martin Raw.

The remaining six chapters in Part III explore important aspects of treatment and change that transcend particular intervention approaches. David Robinson traces the history and role of mutual-aid groups. Barbara McCrady discusses family involvement in addictive behaviors and the change process, reporting the results of a study and incorporating the larger literature on social support. Ian Robertson explores the applicability of cognitive theory and research in understanding and treating addictive behaviors. Nick Heather expounds on the use of self-help manuals to assist individuals in changing their behavior, clarifying the most common method by which people change: self-directed change without the aid of a therapist. The transtheoretical issue of dependence remains important for addictive behaviors, and Howard Rankin presents theoretical perspectives and recent experimental evidence relevant to treatment. Finally, Bruce Ritson commends "the merits of simple intervention," pointing to data that suggest that we have been making treatment and change altogether too expensive and complicated, bypassing some relatively simple interventions that suffice for a large percentage of clients.

Any professional working in this field recognizes that initial change is only a beginning and is no guarantee of long-range success. One of the more important insights of the past decade has been increased awareness of the need for special measures to prevent relapse. Gloria Litman provides an exegesis of her "survival" model for predicting and preventing relapse in addictive behaviors, and Helen Annis presents a comprehensive approach by which relapse risk can be assessed and reduced. In the final chapter of this volume, Joanne Ito and Dennis

Donovan evaluate research on approaches to aftercare following the active treatment or change phase.

We are enthusiastic about the progress that is represented in this volume. The convergence of work from a wide variety of settings is obvious. Our contributors represent the nations of Canada, England, Norway, Scotland, Sweden, Switzerland, the United States, and West Germany. Their professions include psychiatry, psychology, public health, and sociology. The participants in the conference itself represented a still broader range of nations and professions. We are encouraged not only by the increasing international interest in addictive behaviors, but also by the consistency of findings that emerge from well-designed research across diverse settings. Clear progress is being made toward more efficacious and cost-effective treatment of these costly, perplexing, and often devastating problem behaviors.

The editing of an international volume of this kind poses special challenges. English represents a second or third language for some of the contributors, and we express our admiration for their multilingual skills. In conventions of spelling, we have for consistency adhered to U.S. forms, and referencing in all chapters conforms to the publication standards of the American Psychological Association.

WILLIAM R. MILLER
NICK HEATHER

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Contents

I

Change in the Addictive Behaviors

1

Toward a Comprehensive Model of Change

JAMES O. PROCHASKA AND CARLO C. DiCLEMENTE

In 1984, a group of researchers, theorists, and therapists gathered at an international conference in Scotland to contribute to the development of a more comprehensive model of change for the treatment of addictive behaviors. The conference and this book that grew out of the conference are signs of the zeitgeist; they are part of a new attempt to integrate diverse systems of psychotherapy (Prochaska, 1984). In his classic call for a rapproachment across competing systems of therapy, Goldfried (1980) signaled that it is time to move beyond parochial approaches to treatment. It is time to move toward more comprehensive models of change.

A comprehensive model of change must meet many competing demands. A comprehensive model of change in addictive behaviors will need to be applicable to the broad range of ways that people change—from maximum interventions of traditional inpatient and outpatient therapy programs to more minimal interventions, such as a few hours of therapy for problem drinkers (Miller & Baca, 1983; Orford, this volume) or self-help manuals for troubled drinkers (Heather, this volume) and smokers (Glasgow, Schafer, & O'Neil, 1981). A comprehensive model of

JAMES O. PROCHASKA • Department of Psychology, University of Rhode Island, Kingston, Rhode Island 02881–0801. CARLO C. DiCLEMENTE • Texas Research Institute of Mental Science, Houston, Texas 77030. The research in this chapter was funded by Grant CA27821 from the National Cancer Institute.

change will also need to address the fact that with some addictive behaviors, like smoking, the vast majority of people change entirely on their own without the aid of formalized treatment programs (National Institute on Drug Abuse, 1979).

A comprehensive model must also be applicable to the variety of addictive behaviors that people wish to change. The model will need to advance our understanding of how people change such diverse behaviors as alcohol abuse, cocaine dependence, compulsive gambling, overeating, heroin addiction, and smoking. Are there commonalities of change that can account for how people succeed and fail in their attempts to modify such diverse behaviors?

Furthermore, a comprehensive model should help to serve as a synthesis for the diverse treatment methods that are currently available for addictive behaviors. In 1976 Parloff reported that there were more than 130 therapies available in the therapeutic marketplace (or "jungleplace," as he more aptly described it). By 1980, Parloff had documented more than 250 therapies. People wishing to overcome addictive behaviors are confronted with the confusion of too many choices with too few data to decide what should be the treatments of choice for their particular problems. A comprehensive model can help to integrate a therapy field that has fragmented into an overwhelming number of alternative and competing treatments.

A comprehensive model will need to cover the full course of change, from the time someone becomes aware that a problem exists to the point at which a problem no longer exists. Most models of change have been models of action, but there are many changes that precede and follow a person taking action with addictive behaviors. Trying to decide how to help someone to change includes taking into account where in the cycle of change a particular person is.

Just as change is a dynamic and open phenomenon, so too does a comprehensive model of change need to be open to new developments, incorporating and integrating additional variables that are discovered to play important roles in how people change addictive behaviors. We shall present a model of change as it is currently defined, recognizing that it is neither complete nor closed.

The model of change that we have been developing over the past decade is not simple, but it is comprehensible. The days of searching for simple solutions to complex problems should be behind us. The complexities of changing addictive behaviors require multivariate rather than univariate solutions. The transtheoretical approach that we have been developing is a three-dimensional model that integrates stages, processes, and levels of change.

In a comparative study of self-changers versus smokers participat-

ing in two well-known commercial treatment programs, we discovered that both self-changers and therapy-changers identified common stages of change that they had experienced in the course of quitting smoking (DiClemente & Prochaska, 1982). In developing an instrument for assessing the stages of change that clients are in when entering therapy, McConnaughy, Prochaska, and Velicer (1983) found that four highly reliable and well-defined components emerged from a study of 150 general psychiatric outpatients beginning therapy. The four components were identified as the precontemplation, contemplation, action, and maintenance stages of change.

As predicted, the four stages of change formed a simplex pattern in which adjacent stages were more highly correlated with each other than with any other stage. These results on the stages of change have been replicated with 350 general psychiatric patients presenting for outpatient therapy (McConnaughy, Prochaska, Velicer, & DiClemente, 1984). This study also found that the patient's stage of change was a better predictor of progress after 4 months of therapy than were DSM-III diagnoses or severity of symptoms. The stages of change have also been identified in 150 alcoholics presenting for outpatient therapy (DiClemente & Hughes, 1985).

Figure 1 presents a linear array of the stages of change. It indicates how successful change involves progressing from precontemplation, to contemplation, to action, and into the maintenance stage of change. A major problem in the treatment of addictive behaviors, however, is that most individuals do not progress linearly through the stages of change. Figure 2 presents a cyclical pattern that is much more common with individuals attempting to overcome addictive problems on their own or in therapy.

In 1971, Hunt, Barnett, and Branch demonstrated that across a broad range of therapies, between 70% and 80% of alcoholics, heroin addicts, and smokers relapsed within a year after treatment. Similar results have been found with obese individuals (Olcott, 1985). That is, relapse is the rule rather than the exception.

However, most individuals do not give up after relapsing. In a longitudinal study of 886 self-changers representing the different stages

FIGURE 1. A linear pattern of the stages of change.

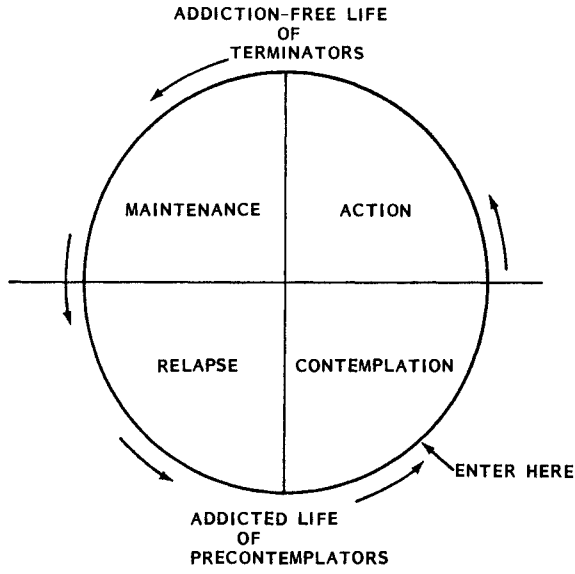

FIGURE 2. The revolving-door model of the stages of change.

of change, we found that 84% of relapsers moved back into the contemplation stage and were seriously intending to quit again within a year. Rather than give up to avoid further failure, most smokers cycle back into the contemplation stage. On the average, self-changers make three serious revolutions through the stages of change before they exit into a life relatively free from temptations to smoke (Marlatt, this volume; Prochaska & DiClemente, 1983b; Schacter, 1983).

Unfortunately some individuals never get free from their addictive behaviors. Some individuals get stuck in particular stages of change. Of a group of 113 individuals contemplating quitting smoking, nearly a third failed to take action after 2 years of contemplating change (Prochaska & DiClemente, 1983b).

Therapy with addictive behaviors can progress most smoothly if both the client and the therapist are focusing on the same stage of change. One type of resistance in therapy occurs when the client and therapist are working at different stages of change. The more directive, action-oriented therapist would find a client who is at the contemplation stage to be highly resistant to therapy. From the client's perspective, however, the therapist may be seen as wanting to move too quickly. On the other hand, a therapist who specializes in contemplating and understanding the causes of problems will tend to see a client who is ready for action as resistant to the insight aspects of therapy. The client would be warned against acting out impulsively. From the client's perspective,

however, the therapist might be warned against moving too slowly. Therapists, like clients, can get stuck in a favored stage of change.

What do individuals do to progress from one stage of change to the next? What are the basic processes of change that are used successfully to complete the cycle of change? A comparative analysis of 29 leading systems of therapy yielded 10 basic processes of change (Prochaska, 1984). The transtheoretical approach assumes that integration across a diversity of therapy systems can occur most likely at an analytical level between theoretical assumptions and therapeutic techniques—the level of processes of change. Interestingly, Goldfried (1980, 1982), in his call for a rapproachment, has independently suggested that the principles or processes of change were the appropriate theoretical starting point at which integration could occur.

The processes of change represent a middle level of abstraction between the basic theoretical assumptions of a system of therapy and the techniques proposed by the theory. A process of change represents a type of activity that is initiated or experienced by an individual in modifying affect, behavior, cognitions, or relationships. Whereas there are a large number of coping activities, there are a limited set of processes that represent the basic change principles underlying these activities. Consciousness-raising, for example, is the most widely used change process across diverse therapy systems (Prochaska, 1984). But there are many therapeutic techniques for increasing consciousness. Educational techniques, confrontational techniques, observational techniques, video-feedback techniques, and interpretations are just some of the techniques used to help clients become more aware of themselves and their problems.

Table 1 presents the 10 processes of change that have received the

TABLE 1.
Ten Change Processes of the Transtheoretical Approach

1.	Consciousness-raising
2.	Self-liberation
3.	Social liberation
4.	Counterconditioning
5.	Stimulus control
6.	Self-reevaluation
7.	Environmental reevaluation
8.	Contingency management
9.	Dramatic relief
10.	Helping relationships

most theoretical and empirical support in our work to date on addictive behaviors. These basic processes of change have been identified not only in theoretical and empirical analysis of leading therapy systems (Prochaska & DiClemente, 1984), they have also been identified in retrospective, cross-sectional, and longitudinal studies of self-changers (DiClemente & Prochaska, 1982; Prochaska & DiClemente, 1985).

A common set of change processes has been clearly identified across such diverse problem areas as psychic distress, smoking, and weight control (Prochaska & DiClemente, 1985). In each problem area the set of change processes accounted for nearly 70% of the variance in a principal component analysis of the Processes of Change Questionnaire. Not only were a common set of change processes identified across problem areas, but there were also important similarities in how frequently the change processes were used across problems. When processes were ranked in terms of how frequently they were used for each of the three behavior problems, the rankings of the processes were nearly identical across problem areas. Helping relationship, consciousness-raising, and self-liberation, for example, were the top three ranking processes across problems, whereas reinforcement management and stimulus control were the lowest ranked processes.

Significant differences do occur, however, in the absolute frequency of the use of the change processes across problem areas. Individuals rely more on helping relationships and consciousness-raising for overcoming psychic distress than they do for weight control and smoking cessation. Weight control subjects rely more on self-liberation and stimulus control than do distressed individuals. Research to date provides strong support for the assumption that there is a common set of change processes that individuals use in attempts to overcome such problems as psychic distress and addictive behaviors.

Most major systems of psychotherapy emphasize only two or three processes of change (Prochaska, 1984). Both clients and self-changers, however, utilize 8 to 10 processes of change (Norcross & Prochaska, in press). One of the assumptions of the transtheoretical approach is that therapists should be at least as cognitively complex as their clients. They should be able to think and intervene in terms of a more comprehensive set of change processes.

One of the most helpful findings to emerge from our research with self-changers and therapy changers is that particular processes of change are emphasized during particular stages of change (Prochaska & DiClemente, 1983). The integration of stages and processes of change can serve as an important guide for therapists. Once it is clear what stage of change a client is in, the therapist would know which processes to apply in order to help the client progress to the next stage of change.

Rather than apply change processes in a haphazard or trial-and-error fashion, therapists could begin to use change processes in a much more systematic style.

Table 2 presents a diagram showing the integration that was revealed from our research between the stages and processes of change (Prochaska & DiClemente, 1983). During the precontemplation stage individuals use the change processes significantly less than people in any other stage. Precontemplators process less information about their problems; they spend less time and energy reevaluating themselves; they experience fewer emotional reactions to the negative aspects of their problems; they are less open with significant others about their problems; and they do little to shift their attention or their environment in the direction of overcoming their problems. In therapy these are clients who are most resistant to the therapists' efforts to help them change. Later we will discuss how therapists can help resistant clients move from precontemplation to contemplation.

Clients in the contemplation stage are most open to consciousness-raising interventions, such as observations, confrontations, and interpretations (Prochaska & DiClemente, 1983). Contemplators are much more likely to use bibliotherapy and other educational interventions. As clients become increasingly more conscious about themselves and the nature of their problems, they are freer to reevaluate themselves both affectively and cognitively. Self-reevaluation includes an assessment of which values clients will try to actualize, to act on, and to make real. Clients also need to assess which values they will let die. The more central their problem behaviors are to the core of themselves, the more will their reevaluation involve changes in their sense of self. Clients ask themselves, "Will I like myself better as a nondrinker or nonsmoker? Will others I care about like me better? What if I am a more anxious or irritable person after I change? If my shared community is primarily with

TABLE 2.
The Stages of Change in which Particular Processes of Change Are Emphasized the Most and the Least

Precontemplation	Contemplation	Action	Maintenance
Eight processes used the least	Consciousness-raising		
	Self-reevaluation		
		Self-liberation	
		Helping relationship	
		Reinforcement management	
			Counterconditioning
			Stimulus control

drinkers or smokers, will I risk rejection? If I fail to change, will I feel coerced, guilty, or weak?"

During the action stage it is important that clients act from a sense of self-liberation (Prochaska & DiClemente, 1983). They need to believe that they have the autonomy to change their lives in key ways. Yet they also need to accept that coercion is as much a part of life as is autonomy. Thus, if they slip during action and attribute it all to a lack of willpower, they can experience considerable guilt or shame that can keep them from trying to take action again. On the other hand, if clients attribute all of their success to a therapist or to a helping relationship, they risk becoming unduly dependent on a therapist.

Self-liberation is based in part on a sense of self-efficacy (Bandura, 1977, 1982), the belief that one's own efforts play a critical role in succeeding in the face of difficult situations. Self-liberation, however, cannot have just an affective and cognitive foundation. Clients must also be effective enough with behavioral processes, such as counterconditioning and stimulus control, to modify the conditional stimuli that can coerce them into relapsing (Prochaska, DiClemente, Velicer, Ginpel, & Norcross, 1985). Therapists can assess how adequately clients are able to apply processes such as contingency management and stimulus control. Therapists can provide training, if necessary, in behavioral processes to increase the probability that clients will be successful when they do take action. As action proceeds, therapists can serve as consultants to the clients as self-changers, to help clients identify any errors they may be making in their attempts to modify their behavior and environment in a freer and healthier direction.

Because action is a particularly stressful stage of change that involves considerable opportunities for experiencing coercion, guilt, failure, and the limits of personal freedom, clients are particularly in need of support and understanding from helping relationships (Prochaska & DiClemente, 1983). For clients, taking action tends to mean taking risks with rejection. Knowing that there is at least one person who cares and is committed to helping serves to ease some of the distress and dread of taking life-changing actions.

Just as preparation for action is essential for success, so too is preparation for maintenance. Successful maintenance builds on each of the processes that has come before. Specific preparation for maintenance, however, involves an open assessment of the conditions under which a person is likely to relapse. Clients need to assess the alternatives they have for coping with such conditions without resorting to self-defeating defenses and pathological patterns of response. Perhaps most important is the sense that one is becoming more of the kind of person one wants to be. Continuing to apply counterconditioning and stimulus control is

most effective when it is based on the conviction that maintaining change supports a sense of self that is highly valued by oneself and at least one significant other.

Just as the processes of change can be integrated with the stages of change, so too can other important change variables be integrated with the stages of change. Self-efficacy, for example, was presented by Bandura (1977) as the critical variable that can lead toward a unifying theory of behavior change. In our research, we have found self-efficacy to be an important variable in understanding and predicting changes in addictive behaviors (DiClemente, 1981; DiClemente, Prochaska, & Gibertini, 1985). In our research on smoking, for example, we developed a measure of self-efficacy that represents the level of confidence individuals have that they can resist smoking across a broad range of tempting situations. We also developed a measure that assesses the level of temptation subjects report for these same situations.

A 12-item version of the self-efficacy measure was found to predict which self-changers and therapy changers would maintain their nonsmoking 5 to 7 months after quitting (DiClemente, 1981). A 31-item version of self-efficacy was found to differ significantly across the stages of change. In a cross-sectional analysis, self-efficacy was found to increase from precontemplation, to contemplation, to action, into maintenance. Self-efficacy did not stabilize until approximately 18 months after quitting smoking. Temptation levels, on the other hand, fell from precontemplation, to contemplation, to action, and into maintenance. Temptation did not level off until approximately 3 years after quitting smoking (DiClemente, Prochaska, & Gibertini, 1985).

These data suggest a working definition of when people successfully terminate from the cycle of change. We assume that individuals successfully terminate an addictive behavior when their temptation levels are zero and their confidence levels are 100% across all problem situations. Our data suggest that some people are able to terminate an addictive behavior like smoking, whereas others remain in the maintenance stage even though they have not smoked for 5 years or more.

Decisional balance is another variable that has been presented as a cornerstone for building a more comprehensive model of change (Janis & Mann, 1977). In our research on self-change approaches to smoking cessation, we developed a decisional-balance measure based on Janis and Mann's (1977) model of decision making. Their model suggested four separate components of decision making. Principal components analysis of our 32-item decisional balance questionnaire, however, yielded only two reliable and well-defined components (Velicer, DiClemente, Prochaska, & Brandenburg, 1985). The components were simply labeled the "pros of smoking" and the "cons of smoking." Rather than

being polar opposites, these components were independently defined (i.e., orthogonal). Thus, individuals could be high on both pros and cons of smoking, low on each, or high on one and low on the other.

Cross-sectional data indicated an interesting pattern in the balance given to the pros and cons depending on which stage of change people are in. As expected, precontemplators have a pattern of high pros and low cons. Contemplators are high on the pros but the cons of smoking are also high, with the cons slightly outweighing the pros. The people in the action stage report a pattern in which the cons remain somewhat higher than the pros, but both are lower than for the contemplators. Finally, the long-term maintainers show significant reduction of both the pros and cons of smoking, with the cons still somewhat greater than the pros. These data suggest that over months and years of not smoking both the pros and cons of smoking decrease in value until smoking becomes almost a nonissue for many former smokers (Velicer, DiClemente, Prochaska, & Brandenburg, 1985).

Key change variables like the processes of change, self-efficacy, temptation, and decisional balance can be used to predict progress from one stage of change to the next. In a 2-year longitudinal study of 886 self-changers, six significant discriminative functions predicted movement for the groups representing the precontemplation, contemplation, action, and relapse stages. (Prochaska, DiClemente, Velicer, Ginpil, & Norcross, 1985). The long-term quitters representing the maintenance stage did not produce enough relapse for study. The discriminative functions involved predicting progress over a 6-month period. The variables entered into the functions included the 10 processes of change, self-efficacy, temptation, and the decisional-balance measures.

The six discriminant functions were not only statistically significant but are also of immense practical significance. These functions were all defined by variables that are open to change. These functions were not defined by static variables, such as sex, age, or smoking history, which are not amenable to psychosocial intervention. Rather, these functions were defined by processes of self-change, self-efficacy, and decision making. Not only are these predictor variables capable of modification, but they can be brought under self-control rather than having to be a function of professional intervention.

When more static variables, such as age, education, income, smoking history, family's smoking history, reasons for smoking, withdrawal symptoms, and health problems, were used as predictor variables, the results were much less significant. Of the 17 predictor variables used in this research, nearly two thirds demonstrated no significant relationship to behavior change (Wilcox, Prochaska, Velicer, & DiClemente, 1985). No significant discriminant function was found for predicting move-

ment out of the contemplation stage. Three variables (greater health problems, smoking less for pleasure, and fewer years smoked) did predict movement out of the precontemplation stage. The second significant function indicated that following a relapse, individuals with higher education and income levels are more likely to try again. The third discriminant function indicated that lighter smokers are more likely to maintain quitting or take further action than are heavier smokers.

Important patterns of change have been identified in our 2-year longitudinal study of self-change approaches to smoking cessation (Prochaska, Velicer, & DiClemente, 1985). Cluster analyses determined typologies for how subjects move through the stages of change. The four most common patterns of change are (a) a linear profile in which individuals progress directly from one stage to the next; (b) the more common cyclical profile in which individuals begin to take action and then relapse, followed by further contemplation and action before substantial improvement is maintained; (c) an unsuccessful cyclical profile; and (d) a nonprogressing profile in which individuals remain stuck in a stage like precontemplation or contemplation, without improving over time.

A total of 14 profiles emerged from the cluster analyses. The 14 groups were compared on the processes of change, the pros and cons of smoking, self-efficacy, and temptation to smoke. Figure 3 presents an example of how the groups differed in their use of one change process (self-reevaluation) over the five rounds of the longitudinal study. Figure 3 is not expected to clarify but rather confuse the reader, because confusion is what was produced in the researchers for a considerable period of time. Clearly, there were group differences in terms of how frequently the change process was used. But what did these differences mean?

Patterns of change did not become clear until particular profiles were integrated cross-sectionally and longitudinally across the stages of change (Prochaska, Velicer, & DiClemente, 1985). Processes of change were graphed across the following profiles: (a) individuals who remained in precontemplation (Group 1); (b) individuals who progressed from precontemplation to contemplation (Group 14); (c) individuals who progressed from contemplation to action (Group 12); (d) individuals who took repeated action during the 2 years (Group 3); (e) individuals who progressed from action to maintenance (Group 5); and, (f) individuals who progressed from maintenance to termination (Group 4).

Figure 4 presents the pattern that emerged for the utilization of self-reevaluation across the stages of change. This pattern was dubbed "Mt. Change." The pattern indicates that the utilization of self-reevaluation peaks during contemplation and action and then gradually reduces during maintenance until it returns to levels comparable to those used during precontemplation. Similar patterns were found for almost all of the

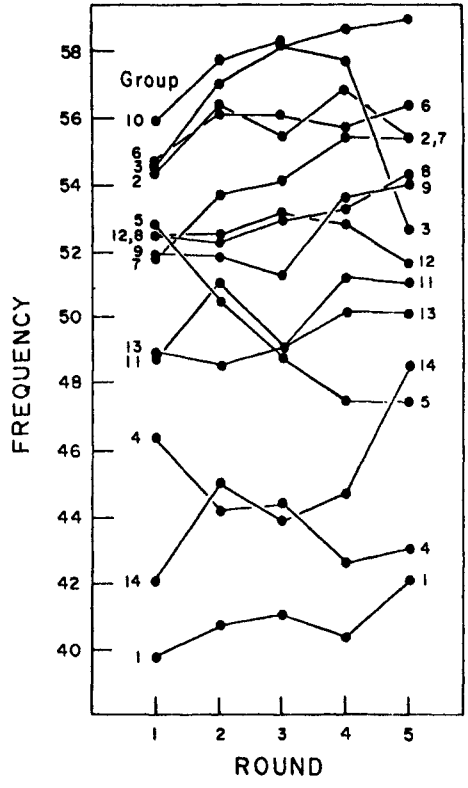

FIGURE 3. Comparison of 14 profile groups on frequency of use of self-reevaluation across 5 rounds of self-change.

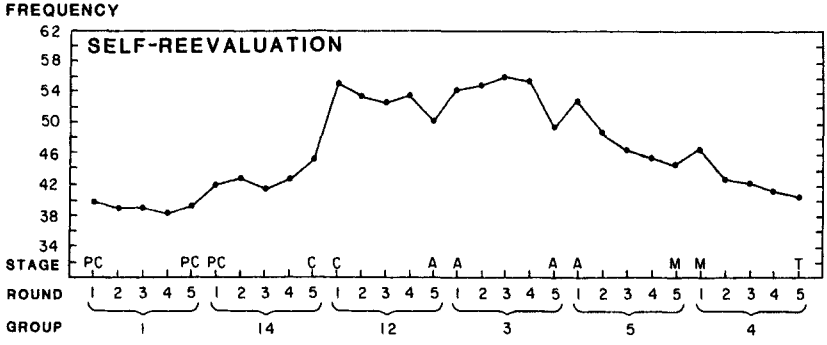

FIGURE 4. Frequency of use of self-reevaluation of 6 profile groups across 4 stages of change.

change processes, with the biggest difference being the stage during which particular processes would peak. Consciousness-raising, for example, is at a very low level during precontemplation, as subjects resist becoming more fully aware of a potential problem or a solution to the problem. Consciousness-raising increases dramatically for individuals who progress to contemplation, peaks in contemplation, and then declines through action and maintenance to precontemplation levels. Processes like stimulus control and counterconditioning, on the other hand, remain relatively low during contemplation but peak in action. Rather than declining to prechange levels, however, these processes level off at higher levels as individuals rely on these processes as relapse prevention strategies. These patterns of change generated the Mt. Change metaphor, which has been extremely useful in creating a generation of contemplation and action self-help manuals. The metaphor encourages the users to conceptualize overcoming smoking as being similar to climbing a mountain—they need to be adequately prepared; they need adequate guides to find their way; they may not make it the first time; but when they succeed, they have a tremendous sense of accomplishment.

Whereas the change processes appear to follow a pattern analogous to a mountain, other variables reveal a different pattern across stages. Figure 5, for example, indicates that self-efficacy or confidence across smoking situations shows a rather steady increase across the stages of change. Temptation, on the other hand, demonstrates a steady decrease in Figure 6. More importantly, if the two figures were superimposed, it would become clear that levels of confidence and temptation are about equal throughout the action stage. It is not until individuals are moving into maintenance that self-efficacy becomes greater than temptations to

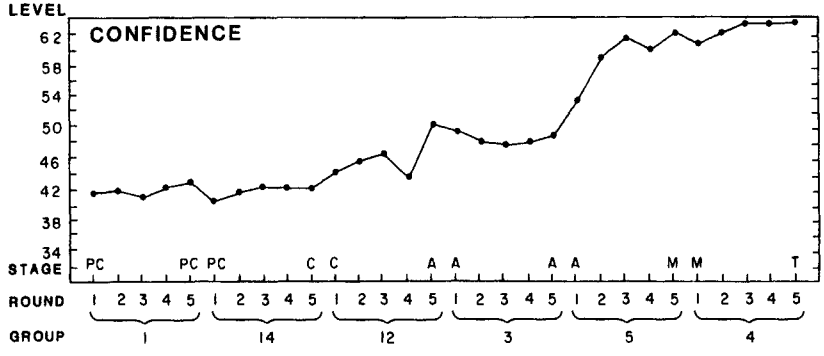

FIGURE 5. Levels of confidence or self-efficacy for 6 profile groups integrated across 4 stages of change.

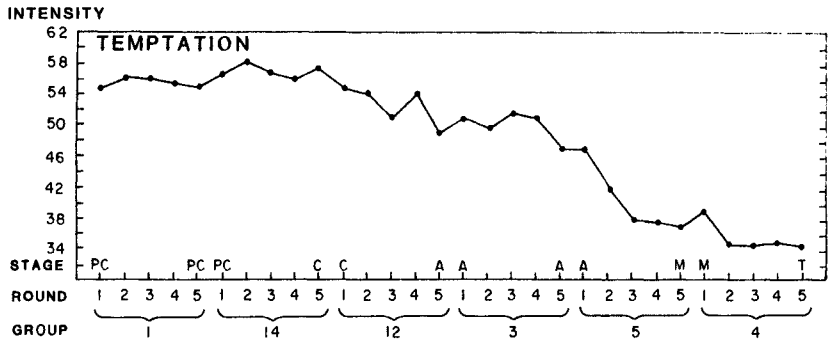

FIGURE 6. Intensity of temptation for 6 profile groups integrated across 4 stages of change.

smoke. Because increases in self-efficacy over temptation are associated mainly with movement from action to maintenance, self-efficacy exercises are being emphasized in our action materials rather than in our contemplation programs.

Figures 7 and 8 suggest that the decisional-balance variables are associated much more with movement from precontemplation to contemplation and from contemplation to action. The pros of smoking clearly outweigh the cons of smoking until subjects move into the contemplation stage. During this stage, however, the cons begin to surpass the pros, even though both are quite important for the smoker. Increasing the cons of smoking beyond the pros is one of the goals for our contemplation manual, as it prepares individuals to take more effective action.

Thus far we have been discussing only how to approach a single, well-defined addictive problem. We have been discussing a two-dimen-

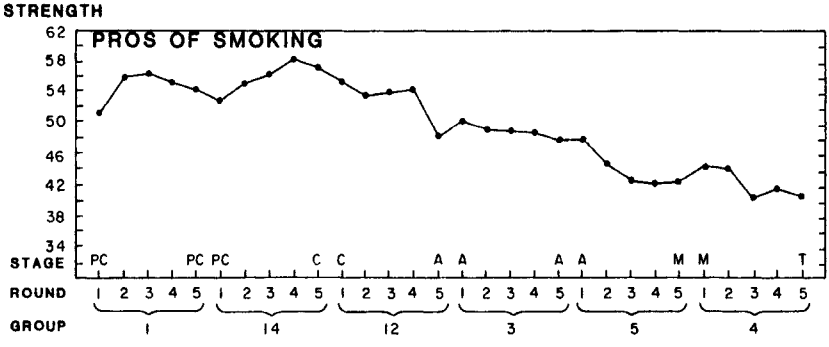

FIGURE 7. The strength of the pros of smoking for 6 profile groups integrated across 4 stages of change.

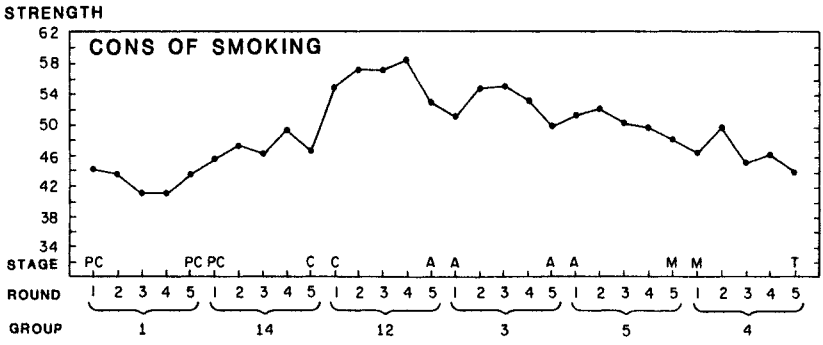

FIGURE 8. The strength of the cons of smoking for 6 groups integrated across 4 stages of change.

sional model involving stages and processes of change as they are applied to a single addictive behavior. However, reality is not so accommodating and human behavior change is not so simple a process. Although we can identify and isolate certain addictive behaviors, these often occur in the context of complex, interrelated levels of human functioning. The third basic dimension of the transtheoretical approach addresses this issue. The levels-of-change dimension represents a hierarchical organization of five distinct but interrelated levels of psychological problems which are addressed in treatment. These levels are:

1. Symptom/situational
2. Maladaptive cognitions
3. Current interpersonal conflicts
4. Family/systems conflicts
5. Intrapersonal conflicts

Historically, systems of psychotherapy have attributed psychological problems primarily to one or two levels and focused their interventions to address these levels. Behaviorists have focused on the symptom and situational determinants; cognitive therapists on maladaptive cognitions; family therapists on the family/systems level; and psychoanalytic therapists on intrapersonal conflicts. It appears to us to be critical in the process of change that both therapists and clients be in agreement as to which level they attribute the problem to and at which level or levels they are willing to work to change the problem behavior. Once again it is extremely important that the therapist engage the client at an appropriate and at least implicitly agreed upon level or levels for the work of therapy to progress smoothly.

In the transtheoretical approach we prefer to intervene initially at

the symptom/situational level because change tends to occur more quickly at this more conscious and contemporary level of problems and because this level often represents the primary reason for which the individual entered therapy. Furthermore, most self-changers seem to prefer to intervene initially at the symptom/situational level of addictive problems. The further down the hierarchy we focus, the further removed from awareness are the determinants of the problem likely to be. Moreover, as we progress down the levels, the further back in history are the determinants of the problem and the more interrelated the problem is with the sense of self. Thus, we predict that the deeper the level that needs to be changed, the longer and more complex the therapy is likely to be and the greater the resistance of the client (Prochaska & DiClemente, 1984). In addition, these levels are not completely separated from one another. Change at any one level is likely to produce change at other levels. Symptoms often involve intrapersonal conflicts; maladaptive cognitions often reflect family/system beliefs or rules. In the transtheoretical approach, the therapist is prepared to intervene at any of the five levels of change, though the preference is to begin at the most conscious and contemporary level that clinical assessment and judgment can justify.

TABLE 3.
Levels × Stages × Processes of Change

Levels	Stages			
	Precontemplation	Contemplation	Action	Maintenance
Symptom/situational		Consciousness-raising Self-reevaluation Self-liberation Contingency management Helping relationship Counter-conditioning Stimulus control		
Maladaptive cognitions	←	→		
Interpersonal conflicts	←	→		
Family/systems conflicts	←	→		
Intrapersonal conflicts	←	→		

In summary, the transtheoretical approach views comprehensive treatment as the differential application of the processes of change at the four stages of change according to the problem level being addressed. Integrating the levels with the stages and processes of change provides a model for intervening hierarchically and systematically across a broad range of therapeutic content. Table 3 presents an overview of the integration of levels, stages, and processes of change.

Three basic strategies can be employed for intervening across multiple levels of change. The first is a *shifting-levels* strategy. Therapy would typically focus first on the client's symptoms and the situations supporting the symptoms. If the processes could be applied effectively at the first level and the client could progress through each stage of change, therapy could be completed without shifting to a more complex level of analysis. If this approach were not effective, therapy would shift to other levels in sequence in order to achieve the desired change. The strategy of shifting from a higher to a deeper level is illustrated in Table 3 by the arrows moving first across one level and then down to the next level.

The second is the *key-level* strategy. If the available evidence points to one key level of causality of a problem and the client can be effectively engaged at that level, the therapist would work almost exclusively at this key level.

The third alternative is the *maximum-impact* strategy. With many complex clinical cases, it is evident that multiple levels are involved as a cause, an effect, or a maintainer of the clients' problems. In this case, interventions can be created that attempt to affect clients at multiple levels of change in order to establish a maximum impact for change in a synergistic rather than a sequential manner.

What moves people from precontemplation into the contemplation stage of change? What facilitates or forces people to become aware that previously acceptable patterns of behavior are now problematic or pathological? To respond to these important questions we have had to go beyond research data and rely more on clinical experience and theory (Prochaska & DiClemente, 1984).

We propose that progress from precontemplation into the contemplation stage appears to be due to either developmental changes or environmental changes that occur in peoples' lives. Many individuals begin to contemplate changing particular aspects of their lives because of developmental processes that move them into a new stage of life. As Levinson and his colleagues (1978) suggest in their work, *The Seasons of a Man's Life,* many men find themselves quite satisfied with a particular spouse during their twenties. When they enter the transition into the thirties, however, they begin to contemplate radical changes in their

marriages. Similarly, many smokers seriously begin to contemplate stopping smoking as they approach age 40 and feel pressured to face the finiteness of their lives. It is not coincidental that the self-changers in our research who have been most successful in quitting smoking took action at a mean age of 39. Developmentally, facing 40 is a key time for many people to reevaluate their lives to determine where changes are needed.

Other individuals appear ready for change not because of internal developmental changes but because their external environment has changed. Perhaps a spouse or a child has reached a new developmental stage and asks or insists that they stop drinking. Or they begin to realize that their environment no longer reinforces their drinking or smoking as it once did, but now responds with subtle and not so subtle punishments for their old habits. Other changes occur in the environment that may or may not be related to people's personal behavior and yet these events can cause them to contemplate seriously a change in their behavior. A poignant example of such an enviornmental event occurred with a married couple who participated in our self-change research. Both spouses were heavy smokers for over 20 years. Then their dog died from lung cancer. The husband quit smoking. The wife bought a new dog.

The important theoretical issue here is that intentional change, such as occurs in therapy, is only one type of change that can move people. Developmental and environmental changes are other events that can cause people to alter their lives. The transtheoretical approach focuses primarily on facilitating *intentional change,* but it recognizes and, at times, relies on other types of change when working with clients. It is assumed, however, that unless developmental or environmental changes produce intentional change as well, then clients will feel coerced and will be likely to revert to previous patterns once the coercion is removed. It is all too common, for example, that alcohol-troubled people quit drinking when their spouses threaten divorce. Once their spouses are safely back into the marriage again and coercion from the threat of divorce is lifted, these individuals are likely to relapse back into troubled drinking.

Under what conditions are we likely to be open to the developmental processes within us or to the environmental processes outside us as freeing influences that enable us intentionally to change our lives? Under what conditions do we experience these same processes as coercive forces imposing change on us that we must resist with our best defenses? Similarly, under what conditions do clients experience therapy as a freeing influence that enables them intentionally to change their lives? Under what conditions do they experience therapy as a coercive force imposing changes on them that they must resist with their best defenses?

Therapists can help clients progress more freely into the contempla-

tion stage of change if they can help their clients identify with the developmental or environmental forces that are pressuring them to change. Clients may, for example, have difficulty identifying with the developmental process of aging even though it comes from within. Whether entering a new age becomes a life crisis or an opportunity for growth may be determined by whether we experience aging as imposed on us or as part of us. Most of us, for example, identify with aging when we become 21. Our sense of self includes becoming more independent, mature, and adult. Becoming 40 or 50, on the other hand, is more often experienced as an imposition in a society that identifies with youth.

Clients may resist a coercive aging process in self-defeating ways. They may deny any potential health or mental health problems, so that they do not have to contemplate changing their depressing drinking habits. They may turn to stimulants to regain the energy of youth they feel slipping away. They may then turn to barbiturates as a way of sleeping through the night. They may turn to meaningless affairs to deny that their sexual drives are decreasing. They may spend money recklessly to deny that their lives are limited.

The same self-defeating defenses can occur against environmental pressures to change. A client named Harold was in marital therapy for 3 months when he said, "You know, I still don't know why I am coming here. I am coping perfectly fine with all the stresses in my life. It's my wife who can't cope, and yet she insists that I come to therapy or she will leave." Of course, it did not help his wife to repeat for the umpteenth time that Harold was spending money until they were nearly bankrupt; that he was at risk of losing his job for the third time in 4 years; that the children were afraid to be around him because of his violent temper; and that she was seriously considering separating because all his energy was going into his skiing club and none into their marriage. But Harold could no longer identify with his wife, or with her reasons for changing. He experienced her as a manipulating mother trying to take away his freedom and fun.

How can therapists intervene in a manner that allows them to be experienced by defensive clients as freeing influences rather than as coercive forces? Obviously, the more clients can identify with the therapist and the elements of therapy, the more therapy can be experienced as a freeing influence. With precontemplators, in particular, the therapeutic relationship becomes a precondition for further change. Identification with the therapist is more likely to occur if the client feels that the therapist genuinely cares. Identification is also more likely to occur if the client feels that the therapist is truly trying to understand the client's unique experience, including the client's need to be defensive as well as the client's desire to be open. Identification is also more likely to occur if the client believes that the therapist is committed to helping the client

change in ways that are best for the client and not some other agent, such as the courts, the schools, the employer, or the mental health center.

Caring, understanding, and commitment to the well-being of clients are, of course, values that should be essential elements in the identity of a therapist. Therapists feel most free as therapists when they are able to care about their clients, understand their clients, and be committed to the well-being of their clients. There are, of course, times when therapists can be coerced by countertransference or other forces so that they are not really caring about the client but rather about their own needs. Or they are not really understanding this client but rather are responding to their projections onto the client. Most therapists recognize how fine a line there can be between projection and empathy, because empathy is accurate projection. But therapists are committed to putting their own needs and their problematic projections aside so that they can identify with their particular patients.

Ironically, clients need first to feel that the therapist is free to identify with the client before the client is free to identify with the therapist. If the client feels that the therapist cannot identify with the client's predicament in life because the therapist does not care, does not understand, or is not committed, then the client is likely to terminate therapy before it begins. Clients need to believe that the therapist can identify with them as if they were friends and family, not foreigners who are alien to the therapist's sense of self. If clients believe the therapist cannot identify with them because the therapist is of the wrong gender, ethnic background, social class, or sexual orientation, then clients will not feel free in therapy. Clients are likely to avoid such therapists lest they risk coercion to change according to sterotypes of gender, ethnicity, social class, or sexual orientation.

As clients and therapists begin to develop a shared identity that is the essence of a therapeutic relationship, clients become much more open to influence from therapists. Clients are much freer to respond to feedback and education about the alienated aspects of their lives. Clients are particularly free to process information from therapists or others with whom they have a helping relationship. Therapists also become more open to influence from their clients, such as to have a favored formulation invalidated by further information from the client. But our focus will remain centered on how clients change in therapy rather than on how therapists change over the course of therapy.

A helping relationship, such as a therapeutic relationship, provides people with the freedom to process developmental or environmental events in a friendly rather than coercive atmosphere. Easing up on their defenses, they can begin to see themselves more clearly. They can begin to contemplate making intentional changes in their lives without feeling

that they are entirely coerced by developmental or environmental events. Movement into the contemplation stage, like many changes in life, is usually experienced as a combination of coercion and personal freedom.

Once clients begin to move into the contemplation stage, their insight and understanding are critical for further progress. Whether the insight is historical-genetic, interactive, cognitive, or situational depends on the level of change that is needed. For clients working at the symptom/situational level, a functional analysis of the immediate antecedents and consequences of troubled behavior may be all the understanding that is needed. Clients attempting to change troubled relationships, however, will need insight into the interactive nature of their problems. Clients who are not free enough from their family of origin or who are plagued by intrapersonal conflicts are more likely to need insight into the historical-genetic causes of their conflicts.

Insight and understanding can become an endless process of consciousness-raising, however, if clients wish to have a complete grasp of all that influences them. Some personalities have a propensity to become bogged down in prolonged contemplation of a problem. Obsessive personalities in particular prefer to believe that if they keep thinking enough about an issue, eventually the problem will go away or enough understanding will be gained that points to a perfect solution to a complex problem. The obsessive does not like to admit that there are serious limits to thinking and that many personal problems can only be resolved by commitments that go beyond reason. The fear of facing the irrational can keep obsessives seeking for years for sufficient insights, moving from one book to another or from one therapist to another. Of course, some therapists are also afraid of making commitments to action without an obsessive understanding of their client's problems.

Moving from contemplation to action involves both consciousness-raising and self-reevaluation processes. Consciousness-raising interventions, like observations, confrontations, and interpretations, are most important during the contemplation stage. Value-clarification techniques are also important in preparing clients for taking effective action. Helping clients to work through a decisional balance, for example, can clarify which course of action is most likely to reflect the type of person the client wants to become. Balancing the pros and cons of a particular course of action also prepares clients to pay the price that comes with any major change in life.

When it comes to action, skill acquisition and/or utilization are most important for therapeutic progress. If a therapist is skilled only in consciousness-raising interventions, like interpretations, then the contemplation stage can become excessively and obsessively long. Applying such behavioral skills as desensitization, assertion, communication,

or negotiation are important aspects of the action stage. Which skills are utilized depends on the client's level of change. Desensitization, for example, is used most often at the symptom/situational level whereas communication training is much more important for the interpersonal level. Renegotiating dysfunctional family rules can be particularly liberating at the family/systems level. Assertiveness based on existential values can be one of the most liberating means for expressing the enhanced sense of self that emerges when intrapersonal conflicts are being resolved.

From a transtheoretical perspective, the therapeutic relationship, interpretations, and skill acquisition and utilization are all fundamentally important to producing change. Their relative importance varies from stage to stage, with therapeutic relationships most important for facilitating movement from precontemplation to contemplation, confrontation and interpretation most important during contemplation, and skill acquisition and utilization most important during action and maintenance.

We will conclude this chapter by indicating how the transtheoretical model of change addresses the comprehensive questions of who changes, what changes, and when, where, why, and how changes occurs. The transtheoretical approach that we have been developing has focused on when changes occur, how changes occur, and what changes occur when addictive behaviors are modified. The stages-of-change dimension indicates *when* people make particular changes in modifying addictive behaviors. The processes of change address *how* people make particular changes when progressing from one stage to the next. The levels reveal *what* people need to change in order to overcome their particular addictive problems.

Where people change has been assumed not to be a critical dimension of change. Whether people change in residential treatment programs, in outpatient therapy, in self-help groups, with self-help manuals or at home working entirely on their own can have important practical implications, but does not appear to be a critical dimension for developing a comprehensive model of change.

Why people attempt to overcome addictive problems relates to the important issue of motivation that many practitioners believe is a key to successful treatment. To date, we have not paid adequate attention to the question of why some people attempt to change whereas others avoid change. Decisional balance has been the variable we have studied that is most closely related to the issue of why some individuals change whereas others continue with their addictive behaviors. Data on decisional balance and our informal observations suggest that motivations to change often vary with the stage an individual is in. Why someone begins to contemplate quitting smoking, for example, can be different

from why that person eventually takes action to quit smoking. Why someone makes the continued efforts to maintain nonsmoking can be different from why someone tries again after failing to maintain an addiction-free life-style. An individual may, for example, begin contemplating quitting smoking because a friend or relative develops lung cancer. The same person may take action because there is a stop-smoking campaign at the office. Struggles to maintain nonsmoking may be based in part on a motivation to avoid failure. Returning to contemplation rather than giving up may be based on a motivation to be in control of one's life rather than to believe that an addictive behavior is beyond one's self control. From a transtheoretical perspective, we assume that a comprehensive analysis of motivation to change will include an analysis of motivation at each stage of change and how motivation can be a dynamic phenomenon that fluctuates from one stage of change to the next.

Who changes in treatment and who fails to change has been addressed traditionally by the study of client characteristics. Such variables as age, gender, socioeconomic level, duration, frequency, and intensity of the problem, intellectual level, psychological mindedness, and degree of psychopathology have been some of the client characteristics that have received considerable attention in the therapy outcome literature (Luborsky, Chandler, Auerback, Cohen, & Bachrach, 1971; Meltzoff & Kornreich, 1970). We have not paid as much attention to such variables for several reasons. The most important reason is that such demographic, personality, and psychopathology variables tend to be trait-like variables that are not particularly open to change and are not likely to be under the client's control or the therapist's control. Decades of psychotherapy research on who benefits from treatment has done little to advance our knowledge of how we can help more people to change. This same research has often added to clinicians' pessimisim about their abilities to help whole classes, cultures, and communities of people overcome destructive problems, like addictive behaviors. Until we develop more adequate models of treatment based on more comprehensive models of change, we really will not know the answers to who can change with maximum treatment, who can change with minimal treatment, who can change on their own, and who cannot or will not change regardless of what they or we try to do.

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2

Implications of a Self-Regulation Model of Therapy for Treatment of Addictive Behaviors

FREDERICK H. KANFER

Social systems have developed out of the need for the regulation of individual behaviors in order to facilitate communal living. A major goal of the control developed by social systems is the subordination of individual needs to the larger goals of the survival of the group. What is beneficial for an individual is often a satisfaction attained at the expense of pain or harm to others or to oneself at a future time. It is for such reasons that a Skinnerian analysis has viewed society as a giant mechanism for the enforcement of self-regulation. Social and cultural evolution has developed elaborate agencies of religion, education, government, family, and law. But they leave many loopholes in the control of individuals.

SELF-CONTROL AND ADDICTION

A particularly heavy burden that societies place on the individual is the demand for self-control. By *self-control* we mean the exercise of a controlling response or strategy that reduces the probability of executing

FREDERICK H. KANFER • Department of Psychology, 603 East Daniel Street, University of Illinois, Champaign, Illinois 61820.

a behavior that is either very firmly established as a long time habit or momentarily attractive because it fulfills biological or acquired needs and desires. These actions are usually easy to execute but disadvantageous in the long run. Many of these behaviors are not easily preventable by the salient social or physical environment. The control of these acts, oriented toward immediate personal satisfactions, forms part of the social contract and is incorporated in the socialization of children in all cultures. It is the study of these self-regulatory processes and their invocation for the purpose of therapeutic change that has concerned me for over two decades.

In the area of alcohol abuse (as in eating disorders, sexual disorders, and other areas) the individual engages in behaviors that are biologically detrimental to the person in the long run. They also reduce the abuser's contributions to society. The intensity of the self-control conflict is heightened because of conflicting messages from different sources in the social environment. Moderation is prescribed by society for many behaviors that have incentive value, because the long-term consequences of these behaviors have aversive consequences for the person's physical well-being, and/or social and psychological status. Diverse interest groups, however, flourish in our societies and some thrive on producing or exalting behaviors and products that tempt the flesh, the mind, and the palate. Even within the same social infrastructures inconsistent rules of conduct are given. Social rules and etiquettes guide proper timing, frequency, and quantity of alcohol consumption. Social structures and laws attempt to ease the individual's temptation by regulating such factors as drinking age, sources of supply, and advertising. Nevertheless each person is ultimately held responsible for monitoring their judicious use of alcohol, and expected to control drinking within defined ranges and on specified occasions. Attractive social settings, cultural rituals, and social approval increase the conflict for those individuals whose biological and psychological makeup leave them dependent on conflicting external messages rather than on their own internal feedback cues for guidance about how to handle the temptation to initiate or continue drinking.

The introduction to this presentation provides the central theme of our model of self-management therapy. Personal or self-control is a complex process. It is not a pervasive characteristic of the person but involves the total context of a behavioral episode at the biological, social, and psychological level of a person in a social system (Kanfer, 1977). It is *not* a simple skill that can be learned and generalized, nor does it occur in isolation. It is the result of an interplay between a person's urges, opportunities, and social demands.

Self-control situations are defined as situations in which a person is

faced with the task of engaging in or stopping behaviors that are initially less motivated, less enjoyable, and less skilled than the automatically processed acts that we carry out easily from moment to moment. Persons set goals and believe that they can achieve them. They must engage in controlled processing by making decisions and generating their own incentives. Frequently they must also defy concurrent social or internal aversive cues to get the nonpreferred behavior started. This means that the person needs to engage in a deliberate change from a habitual, easy, and often pleasant behavioral sequence. Self-control problems do not occur unless strong biological motives or behavioral dispositions must be altered.

Obstacles to Change

When the addicted client contemplates a change, he or she usually has no clear understanding or certainty about how or whether this effort will benefit him or her. In the treatment of addiction problems, as in any therapy or change program, change is frightening. Especially in addicted clients, the problematic behavior itself is frequently the result of earlier failures to find a satisfactory life pattern. Frustration and self-depreciation associated with these failures, lower positive expectations for change and lowered self-efficacy often cause demoralization. These factors represent powerful obstacles to the optimistic attitude required for acceptance of the heavy burden of withdrawal and for investing effort in a change program. The removal of these factors and an infusion of some hope for, or at least a neutral attitude about, therapy outcome is a critical initial goal of treatment.

At the outset of change, two central questions for all client are: "Will I be better off if I do?" and "Will I be able to do it or will I fail?". These questions are often not answered positively by the client. Furthermore, many therapists fail to begin treatment by helping the client to answer the "Why should I?" question in a clear way. Rational answers, persuasion or horror stories of the long-term consequences, as we know from experience with educational programs on which billions have been spent, are not sufficient to counter other influences. The client's commitment must be verbalized, felt, experienced, *and* acted on to effect an enduring change. The commitment rarely is based initially on a genuine desire to stop drinking or engaging in any addictive behaviors. If a client is eager and motivated at all to change, he or she would usually most prefer to change only the consequences of drinking behavior rather than the behavior itself. It is the task of therapy first to strengthen commitment by helping the client to increase the attractiveness of the new behavior pattern and life-style associated with it. A second task is to

help the client to change the required behaviors by making the change as easy and rewarding as possible.

A PROCESS MODEL OF CHANGE

Considerations and experiences with clients have led me to conceptualize treatment for psychological problems, including addictions, in a general systems approach. The levels of analysis are interrelated and operate iteratively and recursively. The social and biological systems define and influence the boundaries of the psychological system that we usually seek to alter. At the psychological level, the core processes of the client's self-regulatory system, its emotional and cognitive components and its relationship to the execution of specific behaviors in the pursuit of a desired end state (objective), become the focus of the therapeutic approach. The technological aspect of therapy has two major interrelated goals: (a) to alleviate the current problem, and (b) to strengthen the self-regulatory system to cope with future problem situations. The latter includes the person's ability to behave differently. But in addition, a person must learn to recognize and avoid, alter, or confront external (social) and internal (biological) stressors or conflict-producing settings and events. An effective person uses the self-regulatory process to influence emotional, motivational, and behavioral sequences toward attainment or maintenance of an appropriate, effective and desirable style of life.

We now turn to a brief overview of our model (Kanfer & Grimm, 1980), shown in Table 1. It should be clear that the phases in the therapy process overlap. They are recursive and iterative and the need for intensive work in each phase varies with the client and the specific treatment objectives. The conceptual model serves as a guideline for the therapist in setting priorities for different issues during the course of therapy. Further, it indicates how dealing with these issues in proper sequence facilitates the progression in treatment. Each phase is preparatory for the following phases, though its theme may need to be carried over throughout therapy. The model (Kanfer & Grimm, 1980) is similar to that described by Prochaska & DiClemente (1982). Both emphasize the dynamic and recursive nature of the change process. Both models propose commitment to change as the prerequisite to modification of the target behaviors and stress the reciprocal effects of intentions (and other verbal-symbolic processes) and actions. Both models note the fragility of therapeutic gains, and require that treatment focus on maintenance of effects. Finally, both note the importance of the client as the critical agent of change.

TABLE 1.
A 7-Phase Process Model of Therapy

Phase	Primary goals
1. Role structuring and creating a therapeutic alliance	1. Facilitate the person's entry to the role of client 2. Formation of a working relationship 3. Establish motivation to work with therapist
2. Developing a commitment for change	1. Motivate client to consider positive consequences of change 2. Activate client toward change of status quo 3. Reduce demoralization
3. The behavioral analysis	1. Refine client's problem definition 2. Identify relevant functional relationships 3. Motivate client toward specific changes
4. Negotiating treatment	1. Seek agreement of target areas 2. Establish priorities for change program and initiate specific procedures 3. Accept responsibility for engaging in planned therapy program
5. Treatment execution and motivation maintenance	1. Conduct treatment program 2. Assess collateral and radiating effects of change in target behaviors 3. Evaluate and, if necessary, enhance motivation to change and comply with treatment requirements
6. Monitoring and evaluating progress	1. Assess behavior change 2. Assess client's use of general coping skills 3. Introduce new therapy objectives, if necessary 4. Motivate program completion
7. Treatment generalization and termination	1. Evaluate and foster self-management skills for meeting future problems 2. Phase out contact with client

Adapted from Kanfer & Grimm (1980), pp. 440–441.

No model of a therapy process is complete without some attention to processes that lead clients to define themselves (or to be defined by others) as in need of change. The analysis of these variables would have to include a theory of etiology as well, to guide us toward selection of the critical historical, genetic, and sociocultural factors that combine to produce a client or patient.

The scope of this task is overwhelming; in fact it spans several disciplines and still baffles experts. One way to organize our knowledge and raise research questions is to set our model in the context of the usual sequence of events that defines the transition of a person to client status and back again to a person (though some authors hold that a former patient is never again a member of the set of nonpatient citizens). Table 2 presents a simple flow chart that reflects these critical transition points. Of the 10 steps listed, the first 4 are pretherapy events, the last step extends beyond therapy. The reader will recognize the contributions of recent research in psychology, biology, and sociology to the extratherapy steps. For example, social norms and physiological factors determine perception and evaluation of an addictive behavior. Social networks, and personal experiences with health-care delivery systems, and the person's self-confidence affect the decision to seek help. However, lack of time, the complexity of the total constellation, and the

TABLE 2.
Common Sequences in Therapy: A Flow Chart of Clinical Interventions

	Event	Examples of exit reasons
1.	Person notices problem	
2.	Evaluates problem	Defines as trivial, defines as not due to self or not solvable by action
3.	Decides to seek help	No confidence or no resources
4.	Seeks help	Conditions for treatment not favorable
5.	Is diagnosed or advised	
6.	Decides to accept treatment	See 2. or 4.
7.	Responds to treatment	Expectations not met Considers task completed
8.	Makes needed changes	External events change or 7.
9.	Stops treatment	Improvement sufficient at this time
10.	Maintains change pattern	Distress relieved, or new crises arise

speculative nature and dearth of evidence on the integration of the psychological processes with the biological and sociocultural features limit our treatment of this fascinating problem. Suffice it to note that some of the following events influence later steps: (a) the particular event or subjective reaction to it that leads a client to notice a problem; (b) the client's evaluation of these events and definition of the problem; (3) the factors (persons and events) involved in timing the decision to seek help and where to seek it. The understanding of these factors therefore is of great importance in planning a change program.

As shown in Table 1, the first four phases in our model represent the foundation for any effective intervention program. They are not target specific. They are designed to establish a basis for therapeutic interaction, motivate the client toward a commitment for change, develop goals and incentives and involve the client in a behavioral analysis that, in collaboration with the therapist, refines and clarifies the targets and goals of treatment. In Phase 4, the last phase that focusses on creating the conditions most favorable for change, specific objectives are negotiated and commitment to a particular program is contracted. The phases that precede an action program have usually not been discussed in books on treatment methods; yet these preparatory phases are at least as important as the choice of techniques in Phase 5. Further, they are not arranged haphazardly. Social and learning psychology provides background heuristics for them, as they do for the later stages. Clearly, tentative therapy strategies and methods are applied from the first meeting on. But their function is to facilitate the commitment to change at first. Only later can other methods be utilized to initiate a long-term and lasting behavior change. The early phases are conducted in a context in which the client is stimulated and encouraged—and often taught—to assume increased responsibility for the content, direction, and speed of the change process. For many addictive clients, the early stages may require systematic practice even for such rudimentary tasks as imagining (and later, sampling) a change in their daily living routine that eliminates substance abuse, yet provides some satisfactions. Systematic exercises may have to be provided which, with much social support, demonstrate that the client is capable of control. Positive self-reactions and willingness to accept the challenge of change need to be heavily reinforced in these early phases.

Although symptoms and discomforts are dealt with, the model is future oriented; that is, it is designed to prepare, anticipate, and "prehearse" coping techniques for future situations. The intent of treatment is not only to alleviate the current state but also to work toward a clearly defined goal that is more satisfactory to the client (and acceptable to the therapist and to society).

Phase 5 represents the conduct of a specific intervention program, as widely described in texts on treatment methods. Initially, intense efforts focus on the development of new behaviors by techniques ranging from strengthening controlled information processing, such as self-monitoring or preplanning, to the establishment of contingencies in artificial environments. Frequent practice, task assignments, and similar methods are used to speed up the acquisition of a new behavior pattern. As treatment progresses it is gauged to be successful if new acquired behaviors or environment changes become established and automatic; the scope and intensity of treatment is then gradually reduced. Phase 6 overlaps with the preceding one. It is during treatment rather than at its termination that preparations are made for the generalization of effects and for coping with unanticipated difficulties or relapse. As clients appear ready to attempt a new life-style, reassessment is needed to ascertain that (a) they have the necessary skills to adopt, for example, to a living pattern without alcohol, and (b) that the setting to which they will return is not incompatible with this pattern. In addictive disorders this is the time to plan for specific life changes, to experiment with them on a provisional basis, and to clarify the options in leading a life free of the addictive substances and their consequences. Frequently, changes in vocations, social settings, or even geographic location, as well as in social and intrapersonal behavior patterns, may be required to assure continued abstinence or control.

INDIVIDUAL DIFFERENCES REQUIRE INDIVIDUALIZED PROGRAMS

The dynamic-recursive nature of our model suggests a problem-solving rather than a diagnostic approach. Only after treatment has progressed into what Prochaska and DiClemente have called the action stage is it possible to evaluate the extent to which skill-training or environmental changes are needed to reduce the probability of future difficulties. In this phase, as in the preceding and following one, the client is helped to recognize and avoid or to cope with signals of increased stress or hazard, in order to interrupt as early as possible sequences of events and actions that could precipitate renewed conflicts. Particularly in alcoholic and drug-addicted clients, possessing the skills to handle a new alcohol- and drug-free life are essential. For many clients this means learning not only new behaviors but a new life-style.

Clients with alcohol and drug problems do not present a universal and unitary picture of etiology, personality, or prognosis. A common task in therapy is to establish self-regulatory or self-control skills, that is,

to interpose personal control in critical situations. During the initial phases such general skills as self-observation, problem solving, goal setting, and anxiety reduction are strengthened in order to enrich the client's repertoire for assuming responsibility for his life and dealing with his problems more effectively. During Phases 5 and 6 attention shifts from rehabilitating or teaching these basic skills to dealing with the patient's unique problem situation.

Patients differ widely with regard to the variables that precipitate drinking or drug-taking behavior and their sensitivity to the feedback from the altered biological or social consequences of drinking or drug taking. Further, their social environments present different demands and vary in tolerance of behavioral inefficiencies resulting from the habit. Consequently, for each person treatment requires consideration of the specific factors that resulted in drinking or drug taking, the motivational resources that can be used to maintain a change, the specific functions served by the addictive habit, and the conflicts and unfulfilled obligations or demands that results from the habit. These individual needs must be met in therapy to attain long-term success. The last phase represents the gradual withdrawal of the "therapeutic umbrella," as the client is reintegrated in his or her family and work setting. Preparation for follow-up is an essential theme of this phase, particularly for inpatients.

Our model, arrived at through the incorporation of self-regulation, general systems, and motivational principles into the basic framework of behavioral therapy, is similar to that presented by Prochaska and DiClemente in Chapter 1. It stresses the need for helping the client recognize and accept the existence of a problem. Parenthetically, however, this does not mean resignation to suffering from alcoholism as a disease, or drug addiction as a given fact. On the contrary, it means acceptance of the problem as a development of a life pattern that has had serious harmful consequences and requires drastic change. Both models emphasize the integration of cognitive and behavioral changes, with stronger emphasis on the former at the beginning of treatment. We do, however, believe that cognitive and behavioral components are nearly inseparable in all phases. In fact, it is the confirmatory evidence from behavioral changes that strengthens the patient's positive self-reactions and alters further intentions and actions.

We stress the central goal of early therapy to develop the motivation and commitment for change, followed by strengthening the skills to change one's own behavior and one's environment. Prochaska's model and our own emphasize the transitory nature of therapy and differentiate between patients who achieve the level of change that obviates further need for life-long efforts at control and continuing social support and those who recycle after relapse and require long-term self-control

and therapeutic support to maintain abstinence. Our model suggests the need for helping the client to cope with collateral personal problems, antecedent to or resulting from addictive behaviors. Last, but not least, we stress a future orientation toward the therapeutic target, not only in order to eliminate the undesirable habit but also to anticipate and cope with future situations that can facilitate a recurrence of the habit. To this end, the client must be helped (a) to set positive goals, (b) to acquire a skill repertoire for reaching them, and (c) to continue a commitment to these goals during and after therapy. To do this, a client must experience success and learn that these goals can be achieved and maintained.

To focus purely on drinking or other addictive behaviors is to lift one element arbitrarily out of a complex system that encompasses the social context, the psychological status, and the biology of a person. Neither alcohol nor drug addictions nor excessive eating are unitary pathological processes—their contexts and consequences vary from person to person. And none of the addictive problems respond to solutions or programs that fail to prepare the client to assume the heavy responsibility for undertaking and maintaining a change. Thus, instead of focusing solely on the inhibition of excessive alcohol drinking or drug taking, self-management therapy stresses the need for a wider change in personal motivation, values, and living patterns. Initially, substitutions or "positive addictions" may be helpful as transitional patterns. The former drug addict who becomes an "exercise nut" or a crusader for some cause builds up a new set of behaviors and a new social context that is incompatible with the drug scene. However, the ultimate goal is not to help the patient become an antialcohol, antidrug, or antismoking crusader, or to be a "diet freak," but to achieve a stable life pattern in which there is no longer any preoccupation with resisting temptations.

The ease with which this can be accomplished varies also with the nature of the particular addiction. For example, whereas drug addictions usually result in a living pattern that centers almost exclusively on the drug habit, smoking, or some overeating patterns permit maintenance of a socially acceptable style of life. Thus, although a psychological analysis may reveal similarities, social and biological consequences are quite different in alcohol, drug, or tobacco abuse. It would be an error not to address these differences and similarities during therapy.

RESEARCH SUPPORT FOR THE MODEL

Self-Management for Subassertive Clients

The model of therapy that I have presented has been used with a variety of populations, among them clients with eating disorders and

alcohol problems. In a recent study, Schefft (1983) compared a number of outcome and process variables in three groups of subassertive women clients to examine the specific effects that differentiate self-management therapy from other forms of cognitive behavior therapy. The implementation of our model, as can be noted from the foregoing description, does not lie in novel treatment methods but in the context that is created for the use of various techniques. The major features contributing to the context are the sequential structure of themes, the focus on client responsibility for goal-setting and self-regulation, and the extensive and continuing attention to client motivation. In this comparative study of treatment outcome and processes we selected subassertiveness as the criterion for treatment, not because of a primary interest in this problem *per se* but because of practical considerations, such as available populations, relative ease of measurement of the dependent variables, and a clean comparison with a standardized and widely used program. Our intent was to study the process and outcome rather than the specific content of the different therapies.

College females were recruited via public announcements of an offer to obtain free training in "interpersonal communication and self-expression." Participants were screened to eliminate persons who had a previous history of psychiatric hospitalizations, or who were currently in therapy for psychological problems and, on the basis of an interview, were judged to be suicidal or psychotic. Final acceptance of nonassertive women was based on obtaining a raw score of 7 or below on the Rathus scale (1973). Fifty-five nonassertive women were selected for participation. In a blocked design, subjects were assigned randomly to balance the three treatment groups for unassertiveness (Rathus Scores), overall level of psychopathology (MMPI-168 Scores), and level of motivation (Motivation Questionnaire scores). The three treatment conditions consisted of administration of the standard cognitive-behavioral assertion treatment program by Lange and Jakubowski (1976), a self-management treatment, consisting of the same content as the cognitive-behavioral assertion treatment but with administration of it in the therapeutic structure specified by Kanfer and Grimm's (1980) self-management model, and relationship treatment, consisting of group therapy described by Patterson (1974) and Rogers (1957, 1961). Two replications were conducted, each consisting of nine consecutive, weekly 2-hour sessions. Assessment included behavioral and self-report measures of therapeutic processes and outcome. These data were obtained every 3 weeks during treatment and at 6-week and 3-month follow-ups after termination.

It was hypothesized that the treatments would differ with respect to outcome measures and to measures of the therapy process. Differences between the cognitive-behavioral assertion treatment and the self-man-

agement treatment would be attributed to the differences in the structure and context prescribed by the Kanfer and Grimm model because the substantive content, that is, the program exercises and subject matter, were identical in both groups. Because all three treatment approaches were deliberately selected for their demonstrated effectiveness in producing change, it was not primarily the extent of change in assertiveness but the pattern of process and outcome differences that were the focus of the study. Independent judges were asked to determine the identity of each of the therapies on the basis of audiotape segments of sessions in order to check whether the therapist indeed conducted each treatment group in accordance with prepared manuals. The ratings of the judges, made on treatment-specific criteria, indicated that the therapist adhered closely to the manual. Judges identified the segments accurately for the three treatment conditions in all 54 rated samples. In a second validity check 15-minute videotape samples were randomly selected from the first 90 minutes of Sessions 1, 3, 6, and 9. The judges rated four dimensions of therapy for presence or absence, based on distinguishing criteria for the three different treatments. The very high accuracy of rating for the primary features in each treatment indicated that the therapies were executed according to the specification of the treatment manuals.

Each treatment method was found to be effective in increasing assertiveness and lowering the overall pathological level reflected by the MMPI-168 scores. The self-management treatment resulted in the greatest change on scores of interpersonal difficulty, nonassertive behavior, assertive refusal ability, self-evaluation of assertive skills, and level of assertion standards. On the Rathus Scale the self-management and cognitive behavior groups improved more than the relationship group. The greatest advantage of the self-management treatment was found on self-report measures of assertive behavior and self-perception about the adequacy of assertiveness. The self-management treatment also produced the highest level of attendance at meetings and of client participation and involvement in treatment as measured by a questionnaire developed by Yalom, Houts, Zimerberg, and Rand (1967). It also produced the lowest level of resistance on the Vanderbilt Negative Indicators Scale (Strupp, 1979). This treatment was the most effective in enhancing perceived control and perceived confidence. Measures of rate and durability of change further indicated that self-management therapy led to the most rapid rate of change in positive self-reactions, as measured by subject reports on their belief in controlling life events, their potential for change (Schefft, 1983), and their resistance level and perceived involvement in therapy. Self-management also resulted in the greatest maintenance of therapeutic gains. The cognitive behavioral treatment was found to be more effective than relationship therapy in increasing

positive self-view and assertive behavior. The main findings of this study, supporting the rationale of our conceptual model, are shown in Table 3.

First, client motivation during treatment and completion of therapy tasks was considerably higher in the self-management group than in the other two treatment groups. Second, it is in the self-management group that the specific training for interpersonal assertiveness also generalized

TABLE 3.
Summary of Results of Assertiveness-Training Study

I. Validity of therapy methods	
Near 100% accurate rater match of videotaped session excerpts with manuals for groups.	
II. Outcome Variables[a]	
Assertive Behaviors:	
1. Improvement on interpersonal difficulties:	SM > CB,RT[b]
2. On Conflict Resolution Inventory (CRI):	
a. Assertive refusal ability:	SM > CB,RT
b. Nonassertive behavior reduction:	SM > CB,RT
c. Self-evaluation of assertive skills:	SM > CB,RT
d. Magnitude of goal-setting:	SM > CB,RT
e. On all other CRI measures:	SM = CB > RT
3. On Rathus Scale:	SM = CB > RT
4. All groups improved on assertiveness from pre- to posttreatment	
Nontargeted behaviors:	
1. MMPI- all groups improved	
2. Self-Reports:	
a. Self-efficacy: all groups improved:	SM > CB,RT
b. Perceived control: all groups improved from pre- to posttreatment	SM > RT
Only SM maintained gains at follow-up	
c. Belief in change: all groups improved:	SM > RT
Only SM maintained gains at follow-up.	
d. Self-esteem: all groups improved:	SM = CB > RT
Only SM increased gains at follow-up.	
III. Process Variables	
Perceived involvement in therapy:	SM > CB,RT
Perceived treatment value:	SM > CB > RT
Vanderbilt Negative Indications Scale:	SM decreased RT unchanged CB increased
Completed assignments:	SM > CB
Attendance:	SM > RT > CB

[a] Treatment groups: SM = Self-management; CB = Cognitive-behavior therapy; and RT = Relationship therapy.
[b] All results in this table are significant at $p < .05$.
From Schefft, B. (1983).

most widely to nontargeted behaviors after treatment. Finally, the enactment of self-regulatory processes enhanced the durability of treatment effects after termination. These findings tend to support the utility of the model presented here, particularly in enhancing motivation, increasing client participation and commitment, and extending therapeutic gains.

It is interesting to note that the model is consistent with the approach proposed by Marlatt in stressing the need for techniques that enhance and maintain an individual's compliance and adherence to program requirements and for utilizing both specific behavioral techniques and cognitive intervention procedures (Marlatt & Parks, 1982). The relapse model proposed by Marlatt (1979) and Marlatt and Gordon (1980) also stresses the importance of preparing the client for future difficulties in viewing problem behaviors as a probabalistic function of the concurrence of numerous variables. The findings of the study presented here are also consistent with the results reported by Miller, Hedrick, and Taylor (1983), who used behavioral self-control training with problem drinkers and found changes in nontargeted life problems on follow-up as long as 24 months. Addictive clients are notorious for creating problems in therapy by their resistance to treatment requirements, noncompliance, and other behaviors indicative of low motivation in addictive disorders. Therefore this group of clients is particularly appropriate for a treatment approach that emphasizes the development of motivation toward a different living pattern, the participation of the client in selecting treatment objectives, and assuming responsibility for carrying out therapeutic tasks and a future orientation that stresses preparation for enduring maintenance of treatment gains.

Self-Management in Residential Treatment

The model that I have presented has also been applied in various settings for individual patients and group programs. One example of its application to addictive behaviors is a residential treatment program for alcoholics, developed and directed by Ralph Schneider and his colleagues in Germany. It was recently described in a book, edited by Schneider (1982). The program is consistent with our model in its aim to change problematic drinking behavior. But the program is also based on the assumption that understanding the context of this behavior, increased self-confidence and feelings of competence (self-efficacy), reduction of anxiety and skill deficits, and motivated changes in life-style are necessary for a satisfactory adjustment to a life without substance abuse.

In the program at the Furth Clinic, West Germany, these general objectives are pursued by a dual approach. First, all patients participate in therapeutic activities that relate to the common factors associated with

alcohol abuse, for example, group therapy that deals with understanding the biological and emotional context and consequences of alcohol, applied to each person's situation; methods of utilizing self-control and relapse training, relaxation training, problem solving, physical fitness, and leisure-time organization, etc. Second, patient groups, with minimal guidance by the staff, also meet to discuss problems, evaluate progress, and deal with any items that are put on the agenda by group members. These group meetings practice the assumption of responsibility by the patients for their own activities, therapy progress, and future welfare. Third, individual therapy sessions allow specification of the individual patient's problems and planning of the combination of various specific treatment components that are available in addition to the obligatory components; for example, preparation for occupational pursuits, social skills training, etc. Finally, family therapy is scheduled as a required component of the program.

Because of the need for a gradual shift from initially high structure to increasing personal responsibility, patients are first assigned to highly structured groups. After about 6 to 8 weeks, they spend several days in a relatively free period of "individual deliberation." Therapy meetings are reduced in frequency and each patient is responsible for engaging in intensive individual work on developing a "life balance-sheet." Following the goal- and value-clarification phase in group work, this period allows patients to work intensively on assessing their personal life goals and developing plans for achieving them. Several daily therapeutic contacts with individual staff members are of short duration (10 minutes). They are designed to offer patients assistance and to monitor their progress. The patient then joins the more fully structured groups. The last stages in our model, the preparation for generalization and transfer, are represented by emphasis on return to the community or home environment for increasing durations. Patients prepare for contact either with self-help groups or psychological service centers and plan how to follow-up these contacts after discharge from the clinic. Contacts with employers and employment agencies are also made at this time. A recent extension of this approach has been proposed by Schneider in what he calls "interval therapy" (in press). Its central feature is that patients return to the clinic for "booster" treatments for periods of 2 weeks, at intervals of 10 to 12 weeks, 6 months, and 22 months to strengthen progress achieved and to deal with new problems. If the patient is in outpatient treatment, clinic residence is not needed after the 6 month readmission. The concept of realistic coordination of treatment, life events, and social context underlies the interval-therapy program, which is currently in the planning stage.

The Furth Clinic has an extensive system for data collection in order

to evaluate and improve treatment strategies and methods. Approximately 500 patients have been treated yearly since 1978, primarily for alcohol abuse. A one-year follow-up (for patients from the year 1979) indicated an 80% abstinence rate for those who returned the mail questionnaires. About 35% of the patients did not return the questionnaire. Of these 120 persons, a sample of 65 was visited in person by a psychologist. On the basis of this information it was established that 40% of this group had remained abstinent. A 4-year follow-up revealed essentially the same findings. It is interesting to note that patients who had relapsed after 6 months were also those who had relapsed at the 4-year follow-up.

A FEW UNRESOLVED ISSUES

The model that I have presented stresses the blending of social and personal control in therapy. It emphasizes the need for helping the client to experience, not just verbalize, his or her potentials for change, to set clear goals, and to accept responsibility for the change process. Although each element requires the use of some techniques, our view is closer to a general-systems approach than to a model that highlights only one or a few limited principles or mechanisms of change, such as reconditioning, removal of barriers to self-realization, or extending conscious awareness of the origin and nature of central emotional conflicts.

Recently, Smith, Glass, and Miller (1980), Shapiro and Shapiro (1982) and others reported the generality of therapeutic effects, regardless of the type of treatment, therapist experience, and other factors. These findings have created considerable emotional reactions for several reasons that are well described by Parloff (1984). Nevertheless, even if the research methods are flawed or the samples biased, the findings do suggest that there may be critical components in the therapy process without which successful outcome cannot be achieved. Some of these factors were noted by Jerome Frank over 20 years ago (1973). The presence of such common features and the report of similar proportions of success across widely differing schools of psychotherapy has led some authors to attribute the effects of therapy entirely to the rituals of treatment (e.g., Fish, 1973), or to nonspecific factors. In the treatment of addictions, as in other life problems, I believe that the effects are the results of a combination of the unique constellation of factors that include the nature and severity of the client's problem (e.g., schizophrenia vs. subassertiveness), the social context in which the client lives and the therapist and patient operate, (e.g., a court-referred middle-aged mar-

ried male problem drinker vs. a self-referred, single adolescent client), and the clinical approach used.

Although various metamodels of the therapy process are useful in definition of the problem, in activation of the client, and in the creation of favorable conditions for change, several tasks remain: first, the further development of a repertoire of methods by which various key elements of the therapy process are best facilitated for a given client; second, the wider use and application of data from other branches of psychology, such as learning, motivation, information-processing, social processes, and others, in the development of these methods. The issue of client motivation and commitment is particularly focal. Recent work on compliance, the reexamination of the concept of resistance, and the closer analysis of client motivation that I have proposed here, all point to the need for further research in this area and for translating concepts and laboratory procedures into clinical methods. Finally, we need to recognize that the heuristics for application of a body of scientific knowledge to a specific life problem can be developed only by close collaboration between the theoretician-researcher and the practitioner. Although general principles are needed to guide conceptualizations and methods, specific experience and/or data in the client's problem area are required to know what principles to apply how, with whom, when and by whom for greatest effectiveness. This does not mean individual therapy in the sense of uniqueness and artistry but rather the planned combination of various methods, objectives, and therapy contexts corresponding to the capacities, potentials, and limitations that each client presents.

SUMMARY

It is now possible to summarize the implications for the treatment of addictive behaviors, the issue that is of central concern here. I have presented a conceptual framework that may be useful mainly because it calls attention to the diversity of factors that determine successful treatment. But at the same time this perspective points to critical contextual components that may be indispensible for any treatment that desires durable effects.

It is widely accepted among therapists that addicted persons do not change by enforced deprivation of the abused substance, nor do most of them view the abandonment of the habit or substance as a virtue *per se*. Therapy therefore cannot aim solely toward temporary compliance with abstinence rules nor toward breaking the behavior sequence associated with the consummatory act. Although physical and psychological bene-

fits can be derived from such procedures, the key to long-term therapeutic effects lies in helping patients to develop goals and incentives that are based on their acceptance of the inherent advantages of an addiction-free life. This motivational source cannot be the desire to avoid social punishment or to please others but it must originate in goals that the patient generates. To this end we have suggested a model for the therapy process that helps the patient

1. To develop goals and incentives that are potentially attainable and fit with his or her life experiences and sociocultural milieu
2. To experience feedback over time that reflects a balance of greater satisfactions and/or lesser distress in favor of the drug- or alcohol-free life-style over the addictive life pattern
3. To acquire a skill repertoire (a) for attaining some of the same positive outcomes as previously achieved by the addictive habit (e.g., stress-reduction, social contacts, and support) by other behaviors and achievements, and (b) for handling temptation, seeking or creating environments that support and model non-addictive life-styles, and for coping with new problems or cues that prompt the old behavior pattern

For expository purposes these therapeutic tasks can be put in overly optimistic and simple terms: the therapist must help the patient to dream new dreams that are achievable and move the patient to action, to taste some success on the road to making the dream a reality, and to offer professional help to make the transition as easy and painless as possible.

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II

Contemplation

Motivation for Change and Prevention

3

From Contemplation to Action
The Role of the World Health Organization

MARCUS GRANT

The purpose of this chapter is to review current activities within the World Health Organization's (WHO) global program on the prevention of alcohol-related problems and to explore the extent to which these activities reflect the comprehensive model of change that underpins this volume. In particular, because the majority of the other chapters focus on the enhancement of clinical practice, work in two linked areas will be emphasized—advocacy of the public health interest, and the development of national policies.

To an extent, of course, it is stretching its limits to take Prochaska and DiClemente's model of change, which was derived from processes in individuals, and apply it to larger social concerns. Nevertheless, there are interesting lessons to be learned, particularly in relation to the stage of decision making. Countries, like individuals, do not change arbitrarily and it is possible to see the work of an organization like WHO as assisting in the movement from contemplation to action.

WHO AS A FOCUS FOR CONCERN

Ever since the First World Health Assembly in 1948, WHO has recognized that it has a role as the focus for international concern about

MARCUS GRANT • Division of Mental Health, World Health Organization, 1211 Geneva 27, Switzerland. The views expressed in this chapter are those of the author and do not necessarily reflect those of the World Health Organization.

alcohol-related problems. The range and severity of these problems vary considerably from country to country as well as within countries. Nevertheless, the accumulated research evidence of recent years demonstrates that there is generally a positive association between trends in alcohol consumption and trends in alcohol-related problems. This needs to be understood from an individual and a social perspective. The relationship between consumption and problems is certainly complex, because even in a single country it cannot be assumed that drinking behavior is evenly spread throughout the population. It is also important to be aware that there may be groups who are particularly at risk.

Recent decades have witnessed considerable increases in alcohol consumption and in alcohol-related problems in countries in all regions of the world (WHO, 1980). Within the WHO European Region, the number of countries with an annual per capita intake of more than 10 litres of pure alcohol increased from 3 in 1950 to 18 in 1979. Countries in the WHO Western Pacific Region report sharp increases in alcohol-related health damage, in alcohol-related crimes, and in alcohol-related accidents during the 1970s. Similar reports have emerged from countries in other WHO regions, including those with long traditions of abstinence from alcohol. Although some countries in Western Europe and North America are now reporting a leveling-off and even a modest decline in alcohol consumption, the global trend is still that of continuing growth, with particularly sharp increases in commercially produced alcoholic beverages in some developing countries in Africa, Latin America, and the Western Pacific (Walsh & Grant, 1985).

Not only the alcohol dependence syndrome itself, but also a wide range of disabling and sometimes fatal physical and psychological conditions, can be attributed either wholly or in part to excessive drinking. In addition, alcohol-related traffic accidents account for significant proportions of deaths in many countries, especially among young people. Other accidents, including accidents in the work setting, are more frequently related to alcohol consumption than is widely recognized. In more general terms, the disruption to family life caused by the excessive drinking of one or more family members causes distress and can also result in violence and neglect. Other areas of concern include drinking by young people and drinking by pregnant women, because both pose questions about the possible harm that may be caused to vulnerable populations. Drinking practices in some developing countries, which do not have long historical traditions of consuming commercially produced beverages of the range and strength available in most developed countries, may lead to a concentration of alcohol-related problems among technicians and professionals, who are the scarcest resource, or among young people, who represent the country's investment in its future. In

such circumstances, the real cost to the community is greater than would be apparent from a simple statement of alcohol-related mortality.

CURRENT WHO ACTIVITIES

Following the recognition, at the 32nd World Health Assembly (WHA) in 1979, "that problems related to alcohol, and particularly to its excessive consumption rank among the world's major public health problems . . ." (WHO, 1985, pp. 103–104), the technical discussions at the WHA 3 years later brought together participants from more than 100 countries. In the report of their discussions, they emphasized four basic messages: that alcohol-related problems are health problems; that action to reduce them is urgent; that there is sufficient consensus on priorities; and that explicit commitment must replace token action (WHO, 1982a).

These themes were echoed in a further resolution at the 36th World Health Assembly, which urged member states "to formulate comprehensive national policies, with prevention as a priority, and with attention to populations at special risk, within the framework of the strategy of health for all" (WHO, 1985). This resolution demonstrates the importance of the alcohol program to WHO's global strategy of health for all and expresses the collective decision of all member states of WHO to deal with major risks to health through a resolute program of action involving all sectors of government.

An international meeting on alcohol and health held in Geneva in November 1983 identified effective advocacy approaches. This meeting involved media practitioners and communication scientists. The recommendations are now being implemented through the Division of Mental Health and the Division of Information and Education for Health. National and international meetings and workshops are being organized to develop, promote, and test specific approaches to the prevention of alcohol-related public health problems, with special emphasis on the needs of developing countries.

A review was undertaken of the various documents on alcohol production, consumption, and related health problems issued or drafted by the Organization during the past few years. This review revealed that the information available had been insufficiently exploited for advocacy purposes. It also highlighted some discrepancies between various sets of data. Action has now been initiated for improving our data base and for producing a series of documents on alcohol production, consumption, and health-related problems. These include an analysis of alcohol production and trade that documents major trends, discusses their public

health implications, and suggests areas for future work (Walsh & Grant, 1985).

Thus, within the terms of Prochaska and DiClemente's comprehensive model of change, it can be seen that activities in the advocacy area have the double purpose of providing substance for contemplation and providing a stimulus for translating the results of contemplation into specific plans for action. This is, in itself, an important component of international efforts in the area of alcohol-related problems, because there are still many countries that have been reluctant to accept the seriousness of the public health risks associated with particular lifestyles that include increasing rates of alcohol consumption.

A second priority area within the WHO alcohol program is collaboration with countries in the development and evaluation of the effectiveness of national policies on alcohol-related problems, within the context of national health planning and development. Following a comprehensive review of the world literature (Moser, 1980), a basic document has been prepared (Farrell, 1985) on policy options for decision-makers. It distinguishes between those policy measures for which there is now sufficient objective evidence of effectiveness, those for which the evidence is mixed, and those for which there is widespread popular support but little objective information. It is hoped that this document will be of use in a wide range of countries, and that opportunities will arise for working with countries to help test the impact of different approaches to policy development and implementation.

In the meantime, intercountry and national workshops are being organized in a number of countries, particularly in the WHO African Region. Simultaneously, the European Regional Office is coordinating an eight-country project on community response to alcohol-related problems, as part of the development of more effective national programs.

The lack of adequate statistical information to support work in this area has been repeatedly deplored in World Health Assembly resolutions and in requests from member states. Following detailed planning, it has now been established that collaborating centers are especially well placed to play a leading role in developing activities in this area. The Addiction Research Foundation (Canada) and the National Institute on Alcohol Abuse and Alcoholism (USA) are bringing together groups of scientists from a range of countries to review the existing situation and to plan for specific international collaborative work. The first meeting will concentrate on the improvement of the measurement of the alcohol component in casualty statistics.

All these activities in the area of national policy development rely on the involvement of sectors other than health, as well as health authorities themselves. They therefore serve as a stimulus to the creation of a truly integrated approach to national policy formulation and imple-

mentation. Indeed, it is as the process moves from formulation to implementation that the change from contemplation to action achieves particularly vivid relevance. Policy formulation is itself an active process, involving the participation of representatives of agriculture, tourism, law and order, finance, and many others. Then, as the policy is implemented, so the quality of action becomes increasingly essential. It is, in a sense, comparatively undemanding to create a theoretical policy; but when that policy is actually going to change the legal framework and the sociocultural context in which people live, then it becomes an enterprise demanding the most careful and the most courageous of approaches.

This is true, also, although in a more restricted sense, of the third priority area for the WHO alcohol program—namely, the development of techniques for identification, prevention, and management in primary health care settings. Because this area of work is more familiar to readers of this volume, it is sufficient to note that a series of activities are devoted to the development of measures to reduce alcohol-related problems in family settings and in employment settings. Of particular interest is work on the early detection of alcohol problems and the evaluation of simple treatment interventions in the primary health care context.

The work on early detection has involved the comparison of existing screening methods and their testing in Australia, Bulgaria, Kenya, Mexico, Norway, and the United States. The results of this project are being fed directly into work on the development evaluation of measures to be used for treatment and management of alcohol problems in the primary health care setting. The project on treatment emphasizes the development of effective and simple low-cost methods, designed to increase (a) the number of people that will be reached, (b) the likelihood that health systems can incorporate the relevant knowledge, and (c) the likelihood that countries can afford the cost.

A simple advice session will be compared to a counseling session and self-help manual, in order to test their effectiveness in reducing consumption and/or alcohol-related problems in problem drinkers. Efforts in this area are supplemented by a descriptive survey of the role of general medical practitioners in the management of alcohol-related problems in a range of developing and developed countries. Reports based on studies from 14 centers in 12 countries have been prepared in order to achieve a better understanding of the current practice and the future potential of general practitioners in identification, treatment, and prevention of alcohol-related problems.

CONCLUSION

As is apparent from this brief description of the current WHO activities on the prevention and control of alcohol-related problems, the

intention is to establish a program that makes the most cost-effective use of scarce resources, that will attract the support of relevant national and international interests, and that will contribute significantly to the efforts of the Organization to work with countries to achieve the goal of health for all.

Because these activities fall within the work of the Division of Mental Health in relation to the prevention of control of alcohol and drug abuse, it is important to be aware of the strong links that exist between efforts to alleviate alcohol-related problems and efforts to alleviate drug-related problems. For many of the activities described above in terms of the alcohol program, there exist parallel activities in the field of other psychoactive drugs. Some issues are of particular relevance to one area or the other, but many benefit from the development of a common approach to alcohol and drug abuse.

In either case, the relevance of descriptions of change processes in individuals to change processes at community, national, and international levels is more than accidental. As one moves from contemplation to action, so the consequences of particular policies become actual and presume commitments of their own. Although this is sometimes a distressing experience in which cherished approaches turn out to be less effective than had been hoped, it is of course best viewed as a challenge. The conclusions of scientific studies and careful analyses of policy options have to be applied in the world of political and social realities. Either they improve the health of people and of nations, or they do not. And if not, then at least they should be able to provide experience that enables one to plan more effectively for the future. The work of WHO, in this as in other areas of technical expertise, has to do with gathering the best available data, marshalling those data into useful strategies, and then disseminating the strategies globally. This is an active process, consisting of a judicious blend of scientific credibility and persuasive advocacy. It also involves a watchdog function, in which WHO can act as a collective conscience for its member states.

All these interrelated tasks are apparent in the current efforts to prevent and control alcohol- and drug-related problems. These, too, need to be seen within the context of the complete program of work in the Division of Mental Health (WHO, 1982b). In order to achieve its goals, the program gives central attention to the development of ways that can help in the preservation and enhancement of mental health at all ages and in the specific sociocultural contexts of member states. Alcohol-related problems impinge on many areas of physical and mental health as well as on social functioning. National and international efforts to prevent and control alcohol abuse are best seen as part of the broader health concerns that are reflected in the strategies to achieve health for all by the year 2000.

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4

From Contemplation to Determination

Contributions from Cognitive Psychology

CLAUS-PETER APPEL

HUMUNCULUS ALCOHOLICUS: A CASE OF ATTRIBUTIONAL FAILURE?

Before beginning, I would like to comment on my choice of approach. I have chosen to treat the subject matter entirely from a cognitive, information-processing point of view. This choice emanates from the impression that cognitive aspects (except for descriptions of cognitive impairment; Jones, Jones, & Hatcher, 1980; Mello, 1972) have not been given proper attention in the treatment of addictive behaviors, especially with regard to the client's propensity to delay decision making with respect to drinking. Yet, it is this very delay that seems to foster the therapist's resentment that is sometimes reported in the literature (Baekelund & Lundwall, 1975, 1977).

The patient behaves in what seems to be an erratic manner. Hence, patients are often described in a pejorative fashion, as recently demonstrated in a paper by Einstein (1982). Reflecting on the concept of *drug user* he concluded

CLAUS-PETER APPEL • Department of Applied Psychology, University of Lund, Paradisgatan 5, 223 50 Lund, Sweden.

> the concept is a pejorative misnomer that prevents adequate treatment planning, negatively affects the treatment process and is irrelevant to treatment outcome research. The drug user is associated with categories of pathology, irresponsible behaviour or deviance that serves to limit adequate treatment planning. (p. 205)

The type of attributional failure pointed out by Einstein (1982) is by no means new in the history of clinical psychology. My feeling is that such misattribution to a large extent is due to a lack of communication between those researching in clinical and general psychology. For the sake of illustration I would like to remind you of a discussion that went on in the beginning of the 1950s. At that point, psychiatrists reported a phenomenon that was judged to be typical of the pathology of reasoning in schizophrenic patients: patients were described as incapable of logical reasoning. This judgment was based on the observation that schizophrenic patients frequently would judge items as belonging to the same class if they shared a common quality (Arieti, 1955). This notion was vividly rebutted by some researchers in cognition (Chapman & Chapman, 1959) on the grounds that research on reasoning with normal individuals showed that this manner of lumping things together was also characteristic of normal individuals. Chapman & Chapman (1959), in summing up their observations, concluded:

> If those writers are reporting a partially valid observation, the validity must exist in a greater error tendency among schizophrenics, or the appearance of the error tendency in contexts in which normals would not show it . . . in exacerbations of normal error tendencies. (p. 225)

In a recent article by Heather & Robertson (1983), a parallel to the above may be found, in that it represents a refusal to accept prematurely all drinking behavior as pathological:

> But what can be asserted with reasonable confidence is that the drinking of persons labelled alcoholic is subject to the same laws as drinking in persons not so labelled and that alcoholic drinking is modifiable in principle. (p. 140)

For the success of a model of change, like the one proposed by Prochaska and DiClemente (1982), it seems important to me that the kind of misattributions reported above be avoided. This requires that we disentangle the specific from the general, the pathological from the normal, in our understanding of the process that leads from contemplation to determination. I therefore would like to seize this opportunity to address some aspects of behaviors displayed by normal individuals when solving problems and making decisions.

Were I to summarize in advance the main point of my presentation, I would paraphrase Heather and Robertson (1983) by saying that the shortcomings in decisional behavior often observed in the addictive cli-

ent are governed by the same rules as the decisional shortcomings in people not so labeled, and that much can be done to understand, and, we might hope, facilitate the transition from contemplation to determination by utilizing results from research on normal problem solving and decision making.

CONTEMPLATION: COMMON SHORTCOMINGS IN THINKING AND REASONING

The process of contemplation may, to a large extent, be understood as reasoning with oneself. From my reading of the literature on thinking and reasoning, much of the behavior displayed by alcoholic clients can be understood at least equally well by applying a frame of reference based on normal psychology as by applying a frame of reference based on assumptions of pathology. It is my belief that, unless we learn how to handle the shortcomings normally displayed, little progress will be made in counseling in general and in the counseling of alcoholic clients in particular.

Problem Solving

In reviewing classic research on problem solving, I was struck by the rates of success in a number of studies. Maier's (1931) by now classical work on problem solving may serve as an illustration. He asked subjects to tie together two ropes that were suspended from the ceiling but too far apart to be reached simultaneously. In order to tie them together, subjects had to realize that a pendulum could be produced by making use of tools lying about in the laboratory. The following rates of success were reported: about 40% of the subjects solved the problems without aid given by the experimenter, 38% with some help, and 22% failed even after assistance.

These figures are intriguing because they are very similar to outcomes reported in studies on treatment in general and alcoholism in particular (Luborsky, Singer, & Luborsky, 1975; Menaghen, 1983). They are also in line with findings regarding the percentage of people who successfully handle addictive problems on their own without coming into treatment (Pearlin & Schooler, 1978, Schachter, 1981). Perhaps the similarity between these observations is not a matter of pure coincidence, but rather is due to the fact that the process of problem solving studied in the laboratory has much in common with the processes encountered in the natural environment and in the therapeutic context.

Maier (1931) also reported the behavior of his subjects when failing

to arrive at a satisfactory solution. They would, when finally realizing that a pendulum could solve the problem at hand, blow at the cords, throw things at them, or talk about a magnetic force that might draw the cord. The resemblance to behavior that alcoholic patients reportedly display as described by Jacobs (1981) is striking: when failing to achieve their objectives, people will often revert to what is called "wishful thinking" as if engaged in a "brainstorming session," where much of the result will end in the waste paper basket once it is scrutinized for feasibility.

Maier (1931) also reported the amount of aid (or counseling if you will) necessary in order to maximize success: 80% of those solving the problem did so within 10 minutes without any aid, 49% of the subjects in need of a hint solved the problem within one minute after the hint was given. Finally, it was concluded that the probability of solving the problem decreased as a function of time the subjects spent on the problem and of the number of hints given.

Again, the results reported by Maier remind me vividly of the literature on counseling, where more counseling does not necessarily yield a better result. Maier also made some interesting observations on how people progressed towards the solution and how they reported their progress: there was a marked tendency to repeat variations of previously unsuccessful solutions. Solutions often appeared suddenly as a complete idea. When hints are given, subjects usually were unable to point out what it was that made them come up with a solution.

The results reported by Maier (1931) again are similar to findings reported by researchers studying the therapeutic process. Clients will often repeat previously unsuccessful behavior (like handling emotional problems by means of drinking), suddenly change their pattern of behavior, and when asked what it was that affected the change, more often than not, both the client and the counselor are unable to pinpoint anything in particular.

In cases like these, Köhler (1947) would probably have offered the concept of insight as an explanation. Although stimulating, it offers little in the way of practical suggestions for the counselor. Other researchers, like Maier (1931) would explain the kind of behavior discussed here in terms of concepts like productive and reproductive thinking: most of the everyday problems we are confronted with can be managed by the implimentation of problem-solving behavior readily available to us. Thus, we are required only to think *reproductively*. It is only when we are faced with novel situations that we cannot rely on means readily available to us, and thus are required to think *productively*. In such instances, experience has to be restructured, and this seems to be a task that is more difficult to accomplish than learning from scratch. Birch & Rabino-

witz (1951) have pointed out that the importance of past experience for the solution of a novel problem lies not in whether relevant information has been acquired, but rather in what context the information or skill has been acquired, because this seems to shape the perception of cues and stimuli. More recently, Pearlin & Schooler (1978) have shown that coping efforts that are successful in one domain might have no effect, or might be detrimental, in others. Hence it may prove difficult to perceive a pair of scissors as a means of constructing a pendulum, or, more relevant to the present issue, to learn to use a colleague as a resource for getting rid of an alcohol problem: in order to do that, you have to perceive him or her as a person not primarily to impress, but also as a person who can help. The problem is to get rid of what Duncker (1945) would have termed "functional fixedness," which is known to interfere with problem solving by limiting the generation of alternatives.

When scrutinizing the literature for remedies for the kind of shortcoming discussed thus far, little is offered that may directly aid counseling. However, the point I am trying to make is that this situation will not prevail once we start to see the similarity between the shortcomings of supposedly abnormal behavior and normal behavior.

Reasoning

One phenomenon discussed in the literature on reasoning is the effect of context on reasoning. Henle (1962) points out that failures to reason logically often emanate from the fact that subjects have a tendency to slip additional premises into the problem. Poor results are thus often due to a misunderstanding of the problem rather than to a failure to reason logically. It is interesting to note that subjects, capable of solving simple syllogisms, drastically reduced their performance when syllogisms were reissued in a form that had a highly emotional content, as when pregnant women were asked to solve syllogisms about infant care. Kopp (1960), analyzing data from schizophrenic patients, found the same shortcomings with regard to reasoning as did Henle in her normal subjects. A recent paper on alcoholics' decisional and reasoning processes (Samsonowitz & Sjöberg, 1981) described the reasoning process of addicts as "twisted" when analyzing factors that addicts held to be responsible for their relapse into drinking. I have the feeling that a concept like "twisted reasoning" will add little to our understanding of the process at hand and runs the risk of being used in the pejorative manner pointed out by Einstein (1982).

In the previous example we have been dealing with deductive reasoning. Inductive reasoning has also been intensively studied (Bartlett, 1958). A paradigm often employed in this context is sectional map read-

ing. It requires subjects to make a plan for getting from point A to B. They are fed relevant bits of information about the geography as they proceed with the task. A consistent finding reported by Bartlett (1958) was that subjects, once they had decided about a route, were not easily convinced to abandon their course, no matter how much evidence was piled up against it. Furthermore, subjects seemed to prefer routes that gave them a variety of later choices, rather than routes that led to binary choices. The subjects in Bartlett's study are, to illustrate the results, like people on the way to their weekend cottage who decide to take a shortcut. After a while it becomes clear to everybody involved that the so-called shortcut has turned out to prolong the journey considerably. Meanwhile everybody gets hungry, tired, and irritated, yet the road that seems to lead no where is not abandoned. This behavior, in my mind, differs little from the behavior of a client who decides to take a shortcut to comfort by buying yet another bottle of liquor, although it has dawned on him that the shortcut is a mistake. The fact that the severity of consequences differs in these two examples does not imply that different types of concepts need to be employed in order to understand these two decisional behaviors.

Rayner (1958) has pointed out that people generally have great difficulties when planning ahead, especially developing alternative plans in case the original plan does not work out. This goes even for very easy tasks. Combining Rayner's (1958) results with those of Bartlett (1958), one would expect that a treatment program that extends over a limited span of time and that offers many alternatives, thus postponing final choices, would be more attractive to clients contemplating treatment than would programs that span over long periods of time and offer very little in terms of alternatives. Similarly, it seems that a counselor would do well in helping the client to develop alternative ways of handling various problems, thus delaying premature steps towards closure. Once a premature solution is attempted, it may be very difficult to stop the process, let alone to reverse it.

Another commonly observed shortcoming in normal thinking is due to the fact that we usually look for confirmation rather than negation about hypotheses or beliefs we hold to be true. A major source regarding this topic is the work done by Bruner, Goodnow, and Austin (1956). Their results suggest that only a small minority of subjects would use a strategy where they tried to refute their own hypothesis. The mainstream behavior is to try to gather evidence for one's own beliefs. This is so common in everyday life, that we tend to overlook its role as a major source of distress. Indeed, it is the common way in which science (as well as this presentation) tends to proceed, as has been pointed out by Kuhn (1962) and Popper (1959). The result of such self-confirming

behavior may very well be to slow down progress, be it on the level of progress in science or on the level of recovery in our alcoholic patients, when they reason that "there simply is no other alternative" to handle the problem at hand.

For the sake of illustration I would like to describe one of my clients. He had come for counseling because he recently had fallen and injured himself. This worried him but he did not link his lack of balance to drinking. Quite to the contrary: his own observation was that these symptoms were reduced after taking a couple of drinks. What worried him now was that drinking did not help any longer. In order to accomplish any change, my client would have to do something that few people ever do, even when sober: challenge his own experience, not unlike the subjects in Bartlett's (1958) and Bruner's (1956) experiments, by conducting an experiment of a special kind: quit alcohol for a couple of weeks and compare the resultant state to the present one!

DETERMINATION: COMMON SHORTCOMINGS IN DECISION MAKING

When faced with the task of decision making, the shortcomings commonly observed in the thinking and reasoning process are likely to come into play. However, research on decision making has exposed a number of shortcomings that are particular to the context of decision making. There is little reason to believe—*a priori*—that the principles of the decisional processes in addictive behaviors differ from the principles normally observed in people, even though the consequences may have a quality of their own.

Much of the research done on the topic of decision making has focused on model building, an enterprise with its roots in the 18th century. Basically there are two classes of models. One, usually called "normative," is based on some criterion of rationality and prescribes what one should do in order to be rational, like "maximizing outcome" in a choice situation or alternatively "minimizing loss." The other class of models, often referred to as "descriptive," represents an attempt at building models based on behavioral deviations from the normative models of decision making.

Optimizing

The optimizing type of model comes with various labels, depending on how its various parameters are defined. In its basic form it would include the two parameters *expectation* (E) and *value* (V). Hence, the

model may be referred to as the EV model. Other forms of the model have essentially the same structure and rationale. (For readers interested in the formal aspects of these models, I would recommend consulting Lee, 1971).

Basically, these models hold that people would choose the alternative with the highest payoff in a set of options, like choosing the best apple one can get for a given amount of money, which seems to be reasonable by anyone's standards. The problem is, however, that you would have to select the best apple on display, which means that you would have to check each of the apples available with regard to all aspects that make an apple a good bargain: size, color, taste, texture, firmness, and price. My guess is that you will not attend to all aspects, at least not when buying an apple, and it is a good bet that you will never do so, no matter what you have to decide. Yet, this is exactly what the optimizing model would expect you to do.

Simon (1979), in reviewing the literature on optimizing, concluded that people simply lack the "wits" to maximize. Part of the problem is that checking on all the available alternatives would make unreasonable demands on our information processing capacity and exceed by far that of our memory (Miller, 1956), which seems to work within the limits of seven plus or minus two chunks of information (provided we are unaffected by drugs). Thus, the frequently made observation that people will behave in an erratic fashion when faced with decisions where many variables have to be considered, is understandable.

Another problem involved is the tendency to frequently shift the values attached to the aspects that enter the decision (like deciding whether color or texture is more important in an apple). As a result, drastic changes with regard to preferences are observed, and it does not matter in this context whether we are talking about decisions concerned with short- or long-lasting consequences. If we are dealing with long-range consequences, there is, however, yet another problem that may turn out to be detrimental to good decision making: usually we seek to solve immediate problems, sacrificing long-range solutions to problems, especially when under time pressure and real or imagined stress (Young, 1966).

Thus, when scrutinized through the optics of this normative model, it is uncommon for people to behave rationally, whether drunk or sober. But, if we can not optimize, what can we do?

Satisficing

The satisficing model has been formulated by, among others, Simon (1976). Its attractiveness is due to the fact that it successfully handles some of the shortcomings found in the optimizing model.

Instead of having you optimize outcomes, for example, looking for the best apple available for a given price, this model assumes that you only continue searching until you have found one that is "good enough." In other words, a decision is made when an alternative is found that meets a minimum set of requirements. One of the major advantages of this model is that it requires a less thorough search of information as well as less storage of information than the previous model. The payoff for this reduction of effort would be less cognitive strain, but at the price of making suboptimal decisions.

Numerous studies have corroborated this model in both real life settings and laboratory experiments. For instance, in one study on executive decision making it was found that executives would lean toward more conventional decisions, choosing the second best alternative, as soon as uncertainty was involved in the decision (Young, 1966). In another study (Tversky, 1972) it was shown that the tendency to suboptimize will be stronger when greater uncertainty must be dealt with, which often means sacrificing long-term gain for short-term acceptability. According to Etzioni (1968) this holds true for consumers in the supermarket as well as for governmental officials. Thus, it seems reasonable that it also will encompass the behaviour of our clients when making a decision about sobriety.

What people seem to be looking for is an improvement over prevailing states, and typically only two alternatives are compared at a time. If neither of the alternatives will do, one is likely to repeat the whole decisional sequence once more until one is satisfied. The model thus does not preclude the contemplation of a larger number of alternatives, but the process of scrutinizing is most likely to be done in a sequential rather than in a parallel fashion. Thus a great deal of the information gathered is usually lost along the way, which is one good reason why record keeping and progressive balance sheets are of value in counseling.

The satisficing model comes in various shapes. In one of them, subjects will use one criterion only in their decision. Using only a single criterion in the decisional process is by no means a sign of cognitive impairment or inebriety. This "single mindedness" is frequently observed when people are faced with a major or a difficult decision. In the information gathering phase of the decisional process, this is illustrated by asking only one close friend for advice, one lawyer, or one physician rather than a number of people; a simple decision rule has also been found to satisfactorily describe choice behavior of consumers (Hansen, 1972).

A special case arises when morality is involved (Schwartz, 1970). In such cases, people very often felt that they have not been suboptimizing, but have chosen "the only possible alternative." (In a similar vein,

political decisions are often characterized by a simple decisional rule, like the consensus rule.) As a result, the likelihood increases that the quality of the decision may be impaired. This phenomenon is particularly pronounced when disapproval is anticipated either from others or from oneself. Utilitarian considerations that might be important are likely to be set aside for the sake of adhering to an overriding moral criterion.

It is a common observation that moral issues often are raised in the context of drinking problems. If we are to trust the literature on decision making, in such instances a situation is created that promotes impaired decision making.

It is safe to say that this model of decision making is closer to what people actually do. It is equally clear, however, that the decisional process understood in terms of this model is still far from rational, because people will not make use of all the information available. Thus, a bystander as well as a researcher or a counselor may very well despair when watching what goes on.

Elimination by Aspects

One of the major assumptions of elimination-by-aspects model is that the decisional process has much in common with the game known as "Twenty Questions" (Tversky, 1972). People are not single minded as in the previous model. Instead a considerable number of criteria may be used. What happens is that people are expected to engage in a successive narrowing-down process. Usually one would start with the most important criterion or aspect and check available alternatives with regard to this aspect. Alternatives that do not meet this criterion are thus rejected as unacceptable. If we stick to the previous example of the purchasing of an apple, it is like eliminating all green apples from consideration, keeping the red ones only. Next, one would proceed by scrutinizing the remaining red apples with regard to the criterion second in importance, like size.

One of the major findings when researching this model is that people frequently behave erratically with regard to what they consider the most important aspect in their decision. After having scrutinized half of all the apples on display, people may discover that the color of apples really is not as important as their size or texture. Thus the process has to start all over again.

Even though this process often is quite slow, it will usually progress toward an optimal course of action in terms of "incremental improvements" geared to alleviating present shortcomings (Miller & Starr, 1967). It is also a type of process that is regarded as a safeguard against drastic changes (Popper, 1959). In the context of addictive behavior, the incre-

mental-decision-making model would fit the situation where a person, beginning with an occasional drink for the purpose of relaxation, would end up with what euphemistically is called a "drinking problem" without ever making an active decision about drinking behavior.

Evidence for major life decisions being the result of an incremental decisional procedure comes from various studies. Ginsberg, Ginsburg, Axelrad, and Herma (1951) noted that this type of model adequately described the choice of career even in people with skilled occupations. Similar results were obtained by Matza (1964) on the "careers" of delinquents, and by Qaller (1938) with regard to the way in which people chose partners for marriage.

It is unlikely that people will adopt but one decisional strategy, and Etzioni (1967) has proposed a model combining aspects of all three models previously reviewed. He claims that subjects would attempt optimizing when confronted with major difficulties, whereas satisficing would be more common when simple decisions are asked for. However, oscillation between different approaches is likely to present a problem of its own, especially when these oscillations occur unsystematically in the context of counseling.

DETERMINATION: COMMON SHORTCOMINGS IN JUDGMENT

Judgment may be considered an integral part of all contemplation and decision making and many researchers in decision making have also turned their attention to various aspects of this topic. Some of their findings may be of interest when reflecting on the normalcy of client behavior.

One phenomenon described in the literature is called the "conjunction fallacy." The probability of a conjunction, such as P(A&B), cannot exceed the probability of its constituents, P(A) and P(B). Judgments under uncertainty, however, are often mediated by intuitive heuristics that do not adhere to the conjunction rule. This means that in everyday life, a conjunction can be more "representative" in our minds than any of its constituents. Such violations of the conjunction rule have been demonstrated in various contexts; for example, personality judgment, decision under risk, suspicion of criminal acts, etc. Tversky and Kahneman (1983, p. 313) conclude:

> In cognition, as in perception, the same mechanisms produce both valid and invalid judgments. Indeed, the evidence does not seem to support a "truth plus error" model, which assumes a coherent system of beliefs that is perturbed by various sources of distortion and error.

One such normal mechanism is the influence of affect on the judgment of the probability of events. Reading about an undesirable event increases people's estimates of the frequency of risks (Johnes & Tversky, 1983), even for events totally unrelated to the event read about. Conversely, reading about a positive event can change affect accordingly.

Thus, the way in which information influences judgment about future events may be systematic, but not necessarily adequate. In this respect, alcoholic clients confirm the rule, rather than being an exception.

Our normally somewhat disturbed relation to information is also confirmed by research on the Bavesian model. This research deals prominently with the impact of information on probabilities involved in decisional problems. (For the mathematics of the model, see Lee, 1971). The question is, how are people influenced by new eivdence when making a decision?

What has been found in many studies is that people generally, at least in single-stage decisions, undervalue new information; that is, they behave more conservatively than is prescribed by the Bayesian model. In multistage decisions the tendency is reversed: people tend to be more extreme than they ought to. In any case, people tend to be highly confident in their judgment. Cohen, Chesnick, and Haran, describing what they call the "inertial-phi effect" conclude: "the phenomenon which our experiments appear to have identified . . . may turn out to be a characteristic feature of human judgment, while pin-pointing one of its Achilles heels" (1972, p. 46).

Tversky and Kahneman (1974) have suggested that simple heuristics, which they have labeled representativeness, availability, and adjustment, might be responsible for our tendency to produce erroneous and overconfident judgments.

The heuristic of representativeness implies, among other things, that judgment regarding the likelihood that one event will generate another, depends on the similarity between these events. (Similar events are judged to be representative of one another.) In the process, small samples are usually judged as being typical for large populations. Finally, error due to unreliability in the data judgments are based on is usually underestimated.

Research on the heuristic of availability shows that an event is judged likely or frequent if it is easy to imagine or recall in relevant instances. (For an alcoholic it may be neither easy to recall nor to imagine what things are like when sober.) Because availability is affected by factors unrelated to likelihood, such as familarity, recency, and emotional salience, heavy reliance (as possibly done in satisficing) on this heuristic is likely to result in a systematic bias in the decisional process.

Finally, similar to results in psychophysics and social psychology (e.g., anchoring, halo effect) the heuristics researched by Tversky & Kahneman (1974) show that people are unable to adjust their judgment to new information, which usually results in overconfidence. This is so common in judgments involving chance and skill that some researchers have talked about the "illusion of control" (Langer & Roth, 1975; Slovic, Fischoff, & Lichtenstein, 1976).

Dealing with Overconfidence

One prominent line of reasoning to account for the phenomenon of overconfidence (often found to be typical in the first steps of recovery in clients) has been that the environment is often insufficiently structured to provide adequate feedback to make changes in one's judgments. Considering the power and persistence of this tendency, it would probably require equally persistent and powerful feedback to achieve correction, something that is unlikely to happen in ordinary social conduct without being regarded as a violation of rules for conduct. It seems thus plausible that an important aspect of counseling would be to provide the kind of feedback necessary, which is unlikely to occur in the natural environment. Technically, this could imply the design of tasks a patient would be asked to carry out between sessions.

However, even if adequate feedback is provided, there is still room for distortion, because it is known that people are more likely to remember favorable outcomes than unfavorable ones in a number of different tasks (Langer & Roth, 1975). Furthermore, it is also well documented that people exaggerate their confidence and ability to predict behavior, especially the extent to which others should have predicted an outcome and their own ability to predict future events (Fischoff, 1975). Inspected with this in mind, the client's prediction, his confidence in his ability to "quit the habit" must be understood for what it is: a declaration of an intention rather than a promise, one that is subject to the same fallacy of all "normal predictions." Thus, what often is perceived as a moral issue, or a character deficiency, can be understood otherwise.

Situations in Which Feedback Will Not Work

One way of looking at the dilemma faced by the addict when trying to change is to understand it in terms of a model called "Multiple Cue Probability Learning" (Slovic & Lichtenstein, 1971), a type of inferential learning. In essence, this means handling a number of cues (like situations or moods when one drinks) that come with different probabilities. Provided the cues presented are linear (cues are linearily related to some

outcome in a situation, such as "every time I start to think about my finances I start to drink"), learning is rather slow. If, however, a nonlinear relationship exists between outcome and cue, learning is even slower. People are known to behave very inconsistently under such circumstances, and what is worse, especially when one considers what this means for decisional counseling, feedback does not help very much.

The situation is similar to one in a series of experiments done by Brehmer (1974), where subjects were confronted with inferential tasks. For some of these, the rules were entirely random. People tried to solve the problems, generate rules, change them; they became very inconsistent and would often revert (or relapse if you will) to previously unsuccessful solutions. Even when tasks are not random, but nonlinearity does persist, people will continue to have a hard time even when given the proper rules. Real life feedback is similar to this situation in that people in the client's social environment vary their behavior toward them. Inconsistent behavior toward clients is also likely to occur in the hospital setting and, last but not least, in the individual counselor's behavior toward the client.

NOT MAKING A DECISION: CONTEMPLATION VERSUS DETERMINATION

In the literature on cognition and decision making, not making a decision has been given little attention. It is usually regarded as a consequence of factors involved in the decisional process, and not as behavior in its own right.

An aspect that is likely to exacerbate the problem of the alcoholic client, as indeed of all people contemplating a major life decision, is the fact that the decision to stay sober is usually tied into a whole sequence of decisions (e.g., developing new skills for handling anxiety without alcohol, changing one's leisure time activities or making new friends). As noted before, in sequential decision making the final outcome is affected by the probabilities in all steps in the sequence. Keeping the inertial-phi effect in mind (Cohen *et al.*, 1972), it is obvious that the more steps involved, the less likely it is that the final outcome will be the one predicted or hoped for.

There are, of course, many ways in which one could describe nondecisions. I should like to address but three aspects of nondecision closely related to what has been said about decision making in the previous paragraphs. Nondecision comes in at least three forms: refusals, delays, and inattention.

Refusals

In many real life situations the status quo is associated with less uncertainty than other alternatives. Many writers view it as the reference point against which all other alternatives are evaluated (Pitz, 1980). Its appeal is that one knows more about it, whereas one knows less about the alternatives. How much the lack of knowledge regarding alternatives may mean in the decisional process is nicely illustrated by a recent encounter with a client of mine. My client strongly believed that the discomfort experienced when reducing her alcohol and drug intake would prevail for the rest of her life. Her refusal to change was understandable in the light of beliefs about what things would be like if she decided to quit drinking.

Perceived risk is another related factor that may lead to both decisions and nondecisions. Subjects will often have a maximum level of risk they accept, and beyond that level an alternative will be rejected, no matter how favorable the outcome may be (Pruitt, 1962). These levels are usually quite low, as demonstrated in several studies (Irwin & Smith, 1957; Lanzetta & Driscroll, 1966). The research has led to the suggestion that "risk tolerance" or the style of decision making could be viewed as a personality trait, but the evidence for such a view has been scanty (Cox, Chesnick, & Rich, 1964; Goldsmith, 1968, Kogan & Wallach, 1967; Lamm, 1967).

Delay

Another form of nondecision is delay. The reasons for delay may include (a) inspection of alternatives, (b) getting a second opinion, (c) deliberation, and (d) waiting for the availability of the goal.

Inspection of Alternatives

A paradigm that has been frequently used to simulate real life events has been the "secretary problem," proposed by Gilbert & Mosteller (1966). It refers to a class of tasks where alternatives are presented sequentially, for example, as when hiring a secretary. The subject may stop the search for information at any time in the process or go on, at a specified cost, to collect more information. Thus the number of alternatives can be controlled as well as their qualities. A major inference from this type of study has been that the mere compilation of alternatives usually helps people to clarify their goal as well as the development of means to achieve the goal in question. This is yet another piece of evidence for the position that helping a client in the generation of

alternative ways of handling a problem is vital in the process of counseling.

Getting a Second Opinion

Klahr (1967) has shown that people will intensify their search for information when the alternatives at hand are similar. However, they will go on searching for information about the available alternatives, even when the outcome is unavoidable and the information is useless (Lanzetta & Discroll, 1966). People have even been found willing to invest a greater part of available resources (be it time or money) into reducing this kind subjective uncertainty. Thus, the reduction of uncertainty seems to be of major importance in the formative period of a decision, and counseling will, to a large extent, always imply the reduction of such uncertainty.

Deliberation

The evaluation of available alternatives after they have been compiled has been another popular topic in research on decision making. Among the prominent questions that have been asked are (a) Why do some decisions take so long, and (b) What do people do while not making a decision?

These questions have been studied in various ways, often by employing reaction-time measures. Irwin (1958) suggested, as did Pavlov before him, that delay in choice behavior is intimately related to the possibility (or capacity) to make discriminations. It would seem plausible that gathering information would play an important part in this process. However, it has been frequently found that people gathering little information will not arrive at a decision sooner than people gathering much information. Those gathering little information merely seem to use more time in reiterating the information available. Furthermore, there is no evidence that the two strategies involved would lead to differences in the quality of the decision made (Zajonc & Bernstein, 1961).

Svensson (1974) has more directly investigated what is done when information is evaluated. He found that people usually attempt to ease the cognitive burden involved in decision making through simplifying the problem dealt with, and a decision is usually achieved by reducing the number of aspects considered in the decision.

In a similar vein Slovic, Fischoff, and Lichtenstein (1977) have attempted to take a closer look at decision making by having people "think aloud" while in the process. From their compilation of verbal

protocols they concluded that subjects proceed by eliminating alternatives they feel are unacceptable. The major reason for a prolongation of decision making, viewed from this angle, is the tendency to oscillate with regard to the relative value of aspects.

Another major problem involved here is the revocability of a decision: it takes more than twice the time to make a decision that is viewed as irrevocable than it takes to make one that is perceived as revocable (Mann & Taylor, 1970), provided the decision is easy. If it is difficult, the irrevocable decision may take still longer by comparison. As of yet, we know only little about how revocability affects real life decisions, because the results reported come out of the laboratory. Yet there is little reason to believe that people would behave more efficiently in real life, when stakes usually are considerably higher and the amount of information to be dealt with usually is more complicated than in the laboratory.

Waiting for the Availability of the Goal

Even though often observed in every day life, the topic of waiting for the availability of a goal has attracted little attention in research, apart from the finding by Mischel (1961) that people will opt for less attractive alternatives when delay of gratification is required. In a recent study by Vuchinich & Tucker (1983), subjects were confronted with a choice between different amounts of alcohol and different amounts of money, with varying degrees of delay. It was found that the preference for alcohol, in all types of subjects, varied negatively with the amount of money at stake and positively with the length of delay. Several other aspects often considered of importance in the clinical context were investigated in this study, like the role of mood, but data did not show that they modified choice behavior. The authors concluded that states often Reported as immediately preceding the decision to have a drink are probably given too much importance. Instead they suggest that the availability of alternatives be given more attention when studying the processes involved in deciding to have a drink.

Inattention

The preceding examples are based on the premise that subjects are aware of alternatives. This might, however, not be the case. (Whether this is so subjectively or objectively does not really come into play at this level.) While inattention prevails it is unlikely that a decision is equivalent to making a decision. Therefore it seems to be vital to ask why

situations fail to elicit a cognitive structure that will result in activities normally associated with decision making.

There are mainly two lines of inquiry regarding this topic. One is predominantly found in clinical literature and deals with the problem in terms of avoidance whereas the other avenue of inquiry deals with it on the level of task properties and is primarily found in the cognitive literature (Janis & Mann, 1977).

The propensity for the conscious avoidance of decision making seems to be as old as mankind. It has been interpreted as shunning responsibility, especially if blame, be it from others or from oneself, is involved. Although this interpretation is quite frequently made (Kaufman, 1973; Mack, 1971), there is little evidence for such an interpretation from research. The majority of support for such a view seems to emanate from case studies and fiction. (This does not imply that such evidence should be dismissed *a priori*.) Research on decision making that might be interpreted to support the view that we are dealing with conscious avoidance comes from Kogan and Wallach (1967). In their work they describe a phenomenon called "risky shift," which has been interpreted as the avoidance of individual responsibility. The phenomenon refers to the observation that a higher level of risk is accepted when people make decisions collectively than when making decisions individually.

The variable most frequently researched in the other line of inquiry is the salience of cues (Yakimovich & Salz, 1971). Studies in which this aspect has been varied systematically show that decisions often can be reversed as a consequence of this variable. Salience is thus a step towards discrimination, which in turn is a vital step towards reduction of ambiguity. If low levels in any of these factors prevail at any of the decisional stages, the likelihood of attention is reduced and with it the probability that a decision will be made. Hence, raising the salience of appropriate cues is likely to be a main objective in all kinds of counseling, including the counseling of the addicted client.

Even cognitively oriented researchers have speculated about the possibility that decision making is aversive in character, but have stressed intellectual rather than emotional strain (Festinger, 1964; Janis, 1959; Lewin, 1942). As of yet, there is little experimental corroboration of this notion.

According to the view outlined here, nondecision may, to a large extent, be understood in terms of cognitive factors, such as uncertainty, level of risk tolerance or ambiguity, salience of cues, perceived consequences, generation of alternatives, and search for information. Because there is little reason to believe that alcoholic clients differ from other people in the dimensions discussed, it seems important that more cur-

rent research be geared toward the development of techniques that make for more proficient handling of these factors in the counseling context.

DECISIONS: SOURCES OF CONFLICT AND STRESS

Treating the subject of decisions from a cognitive point of view by no means excludes consideration of emotion. Not being able to make or carry out a decision, changing one's value structure, finding out that one has forgotten important aspects that should be incorporated into the pending decision are the interface between cognition and emotion, and therefore can not be overlooked in the present context. (For excellent papers bearing on this topic see Folkman 1984; Simon 1967; and Zajonc, 1980.)

Anticipatory Regret

A feeling of regret may often creep in on us even before a decision is made. This phenomenon is studied under the heading of anticipatory regret (AR); it is probably the aspect of contemplation that has been studied most intensively. Because it is reported that people during this phase often display a maximum of anxiety (Epstein & Fenz, 1965; Janis & Mann, 1977), it seems that contemplation is the phase of the decisional process where we are most vulnerable. The level of anxiety displayed is usually related to potential loss expected. Proficient counseling will thus have to deal with the content of cognitions concomitent to this kind of stress, which, as pointed out by Easterbrook (1959), is disruptive of performance.

There are a number of conditions that can augment the severity of AR. Among the more prominent ones is the anticipation that negative consequences of a decision will materialize soon after the decision is implemented. Under such circumstances it is likely that any decision needs a good deal of support. The alcoholic who expects severe symptoms of abstinence is exactly in this predicament. The frequently observed postponement of "getting on the wagon" is thus a normal behavior. For this reason it is probably wise to alleviate medically the immediate negative physical consequences for the patient who tries to quit drinking. Unfortunately, counselors can rarely offer such immediate comfort for other types of more or less direct negative consequences of stopping drinking, which, in the view of the patient, may result in a pessimistic outlook regarding the benefit of the counseling relationship.

Another condition of importance is the expectancy that one has to

adhere to a decision, especially if this expectancy is expressed by significant others. Although significant others generally are looked on as a major source of support in the literature, it probably should be remembered that cases exist where the opposite may be true with regard to effects on the level of anticipatory regret. The youngster who has his first performance in the little league watched by his parents, the parachutist who is about to execute her first jump in front of her companions, or, last but not least, the alcoholic client who is expected by spouse and friends to succeed at staying sober, no matter what hassles might be involved, all these are everyday examples where those close to us can become a threat to success, in that they exacerbate anticipatory regret. Thus the propensity towards inefficiency and premature decision making might be heightened considerably. Some recent data from Appel & Berglund (1985) may be interpreted along these lines of reasoning. These data show that clients who have been in treatment before seem to place less emphasis on the support of significant others than on medication (Antabuse) when entering treatment for the second time. The reverse is true for clients coming into treatment for the first time. (This does not imply that significant others should, as a rule, be excluded from participation in the counseling process.) Further evidence that the concept of support, especially social support, may need some refinement is found in a recently published article by Kessler, Price, and Wortman (1985).

Postdecisional Regret

While AR is a state of mind that is associated with the time before a decision is made, post decisional regret (PDR) is the label linked to the period immediately after one has made a decision. A look into the literature on this topic shows that PDR is a common phenomenon that may be induced by events or credible communications that call attention to potential losses, no matter what type of loss is at stake, be it financial, social, or health related (Festinger, 1964). The stressful nature of PDR is well documented. People complain about sleeplessness and psychosomatic problems. Defensive strategies, such as shifting responsibility, procrastination, intensive work, sexual indulgence, or getting drunk, may be employed to reduce the strain experienced. Apart from this, some other issues dealt with in this line of research may be of some bearing on the present topic of decision-making behavior. The research demonstrates that a decision is not necessarily final just because it has been implemented.

However, once a decision is made, it may be in need of a lot of

support to be maintained. For instance, people read ads about the product they have bought and avoid ads of rival brands. This is tantamount to looking for support for one's decision. Another form of support frequently employed is bolstering (Mann & Abeless, 1970; Vroom, 1966). It seems that once we have made a decision, we want to look good regardless of the quality of the decision made. This is not, it seems, unlike the situation where an alcoholic client decides to stick to drinking buddies, or avoid them altogether depending on what the decision is. Even though the outcome of both these behaviors is likely to differ considerably, the quest for support for one's decision may very well be the same. With this in mind, it is easy to understand why a client, having acted contrary to advice given, would refrain from returning to the adviser. Thus, a good counseling strategy would be to assure the client that he or she is welcome back even if things do not turn out as anticipated.

Oscillations in PDR

One of the tricky qualities of PDR often overlooked in the clinical literature is that PDR, although highest immediately after a decision, seems to oscillate drastically even in the in context of normal decision making. Walster (1964) was the first to report this phenomenon in a study on draftees' job choices. She found that the rated attractiveness of a choice diminished directly after a decision was made, was then upgraded and finally reduced again. The opposite was observed for the rejected alternative. To me this seems a plausible frame of reference for understanding what happens to many alcoholic patients. Viewed this way, their oscillation between bouts of inebriety and sobriety does not necessarily imply a pathological trait. Unfortunately, few clinical studies seem to have scrutinized the mechanisms that are in control of this phenomenon.

In the context of general psychology it has been found that PDR is controlled mainly by the same variables as AR, for example, the level of anticipated negative consequences and expected losses following the implementation of the decision made. Furthermore, it seems that bouts of PDR often occur spontaneously without having to be triggered by external stimuli or events. Both the immediacy and spontaneity of the occurrence of PDR should probably be given attention in counseling sessions, and in order to minimize the probability of relapse it would seem wise not to dismiss the client immediately after a decision is reached. Rather, the frequency of contact probably should be high immediately after a decision is made.

In a sense, the emphasis on PDR is only half the story. In reality we

might very well be dealing with what is called a double approach/avoidance conflict, in that both quitting and continuing are ambivalent alternatives. The aversive concomitants of such dilemmas have been well documented for both animal and man since Pavlov. Change in this context is impossible without change in valence of the alternatives at hand (Lewin, 1942).

Loss of Freedom

One aspect of choice that seems to produce a state of conflict is the perception that by making a choice, freedom is reduced, especially when one has to choose between two alternatives only. It seems reasonable to expect that some clients feel that entering treatment may include such a loss of freedom. My guess is that any aspect of treatment that exacerbates that impression, as when the only alternative offered to drinking is total abstinence, would run the risk of low compliance. When only two alternatives are open to us the situation is usually handled in either of two ways: one is to make the threatening alternative more attractive and the other would be to derogate the valued alternative. From research it seems that people spontaneously follow the latter course (Walster & Walster, 1973). With this in mind, it seems wise for the counselor to assist a client in this process, not only because there is a natural tendency to do so anyway, but because we know that the loss of a valued alternative is very likely to result in that alternative being rated as more attractive later on, especially when the choice was a forced one (Brehm, Stires, Sensenig, & Shaben, 1966).

A forced choice may result in what Sherif and Hovland (1961) have called the "Boomerang Effect," that is, a person coerced into a course of action is likely to do exactly the opposite. Estimates of the occurrence of this effect range between 40% and 80%; thus it seems to be a quite frequent and natural reaction. (These figures remind me of figures concerning dropout rates from treatment.) The lower the credibility of the directive agent, the more frequent the boomerang effect. Worchel & Brehm (1971) found that restrictions of freedom or choice evoked considerable hostility in college students, and what is worse, the hostility was elicted regardless of the quality of the alternative that was forced on the subjects.

The above results may carry important implications for the prevention of relapse and the design of treatment programs, suggesting treatment programs, suggesting that patients should be offered a choice with regard to treatment programs as well as freedom of choice regarding drinking goals.

HELPING CLIENTS TO MAKE A DECISION: COGNITIVE AIDS

Apart from providing an alternative frame of reference for understanding client behaviors, it has been pointed out, that research results from cognitive psychology, if more productively used, might be of great benefit to counseling (Heesacker, Heppner, & Rogers, Janis, 1982; Rush, 1982; Smith, 1982; Strong & Claiborn, 1982). I would like to address this issue in this final section of my presentation.

Decisional Aids in Counseling

The transfer of results from one area to another always presents problems of its own (Arnkoff, 1980), because the conditions between areas may vary a great deal. For instance, in normal decision-making experiments, problems usually are better defined than in the therapeutic setting, and usually it is assumed that subjects have the necessary skills to execute the steps required to carry out a decision. Even more important, subjects in an experiment are usually willing to carry out these steps, whereas clients may not be. Indeed, this may be the primary problem a counselor may be dealing with. Thus, techniques geared to promote better problem solving or better decision making are not meant to replace traditional counseling techniques, but they could be valuable additions to existing approaches to assist the client to make a satisfying choice about some major aspects of his or her life (Heppner, Hibel, Neal, Weinstein, & Rabinowitz, 1982; Kahneman, Slovic, & Tversky, 1982; Kanfer & Busemeyer, 1982).

Most of the decisional aids advocated focus on the alleviation of the commonly observed normal shortcomings discussed earlier. Their advantage lies in that they are nonspecific and thus can become tools in the hand of any user, whether it be a counselor or a client.

The basic rationale of many of these aids is a self-regulatory process similar to the one proposed by Miller, Galanter, and Pribram (1960) in a different context. Usually it implies the execution of a series of steps: the detection of a difference between a current state and a desired state, the generation of means to reduce the difference, the execution of steps implied by the means generated, and finally checking the result against the originally desired state. In the context of counseling this type of self-regulation is usually achieved by self-monitoring and self-evaluation (Miller & Muñoz, 1982).

A problem with the philosophy underlying this model is that the client's predicament may very well be the result of incremental decisions. Changes often proceed in steps below what in psychophysics is called the difference threshold or "just noticable difference" (JND) (Ste-

vens, 1951). As a result, recognition of change may be slow if it occurs at all and problems are not often detected at a time when change is still relatively easy to implement. (This is similar to the gradual deterioration of the brakes of your car: it is difficult to detect in everyday usage but if adjusted, the difference is apparent.) When a client enters a counseling relationship, it seems that problem detection has been successful at least at some level, but that does not mean that detection has been successful at all levels necessary to handle the problem successfully. The objective of counseling will, at least to some extent, imply that the patient emerges out of the process more sophisticated in the detection of warning signals that might serve as indicators of a problem. Furthermore, it seems equallv important that the patient develop a decisional rule about when to react to these cues and, finally, how to react to these cues. This may sound trivial, but a closer look at the problem will reveal that a dilemma may be implicit in this line of reasoning. The way in which I like to suggest that one look at this problem is to apply an elementary signal detection view (Green & Swets, 1966), which has been used successfully as a model in other areas of psychology (McNicol, 1972). In this model detection is handled as illustrated in Table 1.

Table 1 illustrates four different types of outcomes with regard to the detection of signs or cues that "something is the matter." These different outcomes (hit, miss, correct rejection, and false alarm) are interdependent. Thus it is impossible to maximize the number of hits without substantially raising the frequency of false alarms, an outcome that in the present context would characterize a hypochondriac. Conversly, it is impossible to maximize correct rejections without increasing the number of misses, an outcome that would be characteristic of what often is referred to as denial. The detection of cues, or the decision to act

TABLE 1.
Cue Detection

Reality	Patient's view: Cue	Patient's view: No cue
Cue	Hit	Miss
No cue	False alarm	Correct rejection

Table 1 shows the four possible types of outcome when a therapist (symbolized by "Reality" in the table) or a patient make judgments concerning cues of impairment. The outcomes are interdependent. (For further information please consult the text.)

on cues, is a function of factors like the payoff for different courses of action, the proportion of relevant to irrelevant cues, and the similarities between relevant and irrelevant cues. Some of these factors are beyond the control of both the counselor and the patient. Others, like the payoff function, may be modified in the course of counseling, provided detection is followed by implementing appropriate coping skills for the situation at hand.

Trees, Goals, and Decisions

Actually the above reasoning implies more than the mere detection of cues. It also implies that a cue is linked to a state that differs from a goal state. It is only when this requirement is met that we can talk about a "problem" (Wickelgren, 1981). From both attribution theory (Harvey & Waery, 1984) and research on problem solving (Simon, 1979), it is known that the way a problem is presented has a major impact on the efficiency with which it is solved, or for that matter, on whether it will be solved at all. In real life, problems are typically more complicated by the involvement of emotion and thus it is not uncommon that people wish to "maximize" two incompatible outcomes (as when one wants to avoid hassles with a spouse *and* to go on drinking.) In decision research various means have been developed to handle this and similar problems.

Two major approaches for handling this kind of problem are called "goal trees" or "means-end analysis" (Edwards & Newman, 1982; Keeny & Raiffa, 1976). They have been used successfully to structure the utilities of outcomes. The procedure implies that a hierarchical model of a decision is built, one with the final goal at the top. This goal is then decomposed into lower-level objectives, which are broken down into concrete events. The procedure is thus a major step toward detailed description of the process leading to any goal a person may want to reach and seems ideal for monitoring progress. The approach is close to what is known as "backtracking" in problem solving (Lindsay & Norman, 1977). Another advantage of this approach might be that a goal, thus decomposed, will render a more vivid picture in one's memory (Abelson, 1976), which may be important for keeping up motivation. A major task for the counselor in this context would be to initiate this type of process, which may be achieved by having the client project what things would be like if he or she adopted different solutions.

What we have been discussing is actually a two-stage process. Ideally, one would want to build a goal tree with the objective of arriving at a hierarchy of goals. The second stage would require that one would structure the sequence of possible or necessary actions to arrive at the first goal. As a result, a decision tree composed of actions would be

produced. Such a tree would have branches, points of choice or decision, where a previous outcome would determine the next step. (This is a little like fault-finding charts for electrical circuits, or troubleshooting charts for ignition problems in cars.)

A question of some importance is how far into the future it is reasonable to project such decision trees and how many branches one should allow in the counseling context before matters become too complex. One way to look at this is to postpone such decisions until several representations of a given problem area have been produced. The visualization in itself is likely to propel further work resulting in revisions or "pruning." It is in this process of pruning that the counselor probably has one of the most important tasks, that of advising on proper sequences (easy to difficult, now vs. later, generation of alternatives, etc.). Another objective that might be achieved in this process is the pinpointing of a client's specific strength or weakness, which may specify the therapeutic interventions necessary (e.g., the development of coping skills, such as self-assertiveness training or negotiation skills).

As pointed out before, from a cognitive point of view, a major objective of counseling is the generation of alternatives. The strategy of clarifying subgoals inherent in this approach is a step in this direction.

Apart from the type of analyses suggested earlier, problem solving has been shown to improve greatly from using analogy (Newell & Simon, 1972). The approach involves the extraction of relevant features from a situation with which the client is familiar and the demonstration of the similarity between that situation and the target situation. It is important that the client not only be familiar with the situation, but also have been successful in handling the situation that is used as a reference. In my experience, a lot is to be gained by demonstrating to a client that progress could be made, provided he or she made use of skills already in her or his possession. Another way to use analogy is to move from simple to more complex problems, with the essential features kept unaltered.

Is the Literature Relevant in the Present Context?

In modern society, decision making is increasingly transferred to heuristics. Military commanders have been relieved of the burden of integrating information; United States analysts make use of the Bayesian model for the processing of intelligence. The design of man–machine systems has been adapted to ease the burden of decision making (Slovic, Fischoff, & Lichtenstein, 1977).

There are, of course, other real life contexts where decisional aids might be welcome. One such context is science, if one remembers how

often researchers in psychology interpret a regression toward the mean as an experimental effect (Furby, 1973), thereby differing little from the subjects in Kahneman & Tversky's research (1973). A similar situation prevails in the field of law, where judges have been shown to display a number of the effects discussed, like anchoring, failure to consider base rates, and insensitivity to unreliability of evidence. They seem to do little better than do eyewitnesses, who show the same overconfidence in court as they do in the laboratory (Brooks & Doob, 1975; Buckhout, 1974; Fischoff, 1976; Shah, 1975; Sue, Smith, & Caldwell, 1973).

Simple heuristics are thus held by people in all walks of life. It is this very simplicity that makes them attractive and useful tools in the management of everyday life. However, these very same qualities turn them into vicious instruments if applied to situations where they no longer fit. Knafl and Burkett (1975), in attempting to analyze the decisional rules of surgeons, found one dominating rule: "Don't cut, unless you absolutely have to." Imagine an addict abiding by the same heuristic: "Don't quit, unless you absolutely have to. . . ."

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5

Critical Conditions for Change in the Addictive Behaviors

JIM ORFORD

INTRODUCTION

What is so significant about this volume is that the disease model is nowhere to be seen. We now have the collective confidence to develop a genuinely alternative way of thinking about change in the addictive behaviors, and it is as a contribution toward the development of this new thinking that this chapter is directed. I will begin by outlining six conclusions that I draw from what has been written about change. Not all of these conclusions are comfortable to live with for those of us who see ourselves as specialist or expert treaters of addictive behaviors, but each has to be accommodated in any new model of change we care to develop. I will then make some remarks about the directions in which I believe we should look for ideas with which to build our new models of change. I will attempt to make the point that we are in danger of reinventing the wheel; a basic understanding of how those with addictive behaviors do change has been with us for a long time. Finally, I will briefly speak of some of the implications for practice of our new ways of understanding how those troubled by addictive behaviors make changes. Whether we care to admit it or not, most of us practice within a quasi-medical format, and I am not sure whether we have yet faced up to the need for changes in our own ways of working that new models suggest.

JIM ORFORD • Department of Psychology, University of Exeter and Exeter Health Authority, Exeter, England.

SOME UNPALATABLE FACTS

Changes Are Difficult to Predict

As Frederick Kanfer points out in Chapter 2 of this volume, when it comes to addictive behaviors, people do not always, or even often, act rationally, or in ways we believe would be in their best interests. Millions of people continue to smoke despite the well-publicized evidence that it is damaging to health, and the experience of hospital liver units is that most patients continue to drink alcohol after being told that this has already damaged a vital organ (Wodak, Saunders, Ewusi-Mensah, Davis, & Williams, 1983). Nevertheless, although some people persevere with addictive behavior against all logic and reasoning, many make dramatic changes and give up or curtail long-established and deeply ingrained patterns of behavior. The point is that the outcome of addictive behavior is very varied and, as far as I know, our ability to predict who will make changes and who will not is poor. This is apparent, for example, in the lives of the American playwright Eugene O'Neill and novelist F. Scott Fitzgerald. These two cases of alcoholism have been described by the psychiatrist Donald Goodwin (1970, 1971).

According to Goodwin, O'Neill already had a drinking problem in his late teens, was a periodic binge drinker throughout his twenties and most of his thirties, and was prone to mad and wild drunken outbursts and monumental hangovers. At the age of 37, however, he underwent a brief 6-week psychoanalysis and thereafter, with a few temporary lapses, went on the wagon for the remaining 28 years of his life. Scott Fitzgerald is described by Goodwin as "an alcoholic *par excellence.*" He and his friends recognized this in his twenties and although he made regular attempts to try to control his drinking, unlike O'Neill he never succeeded for more than a few months at a time. He refused any psychiatric treatment and died prematurely of a heart attack. I doubt we could have predicted confidently that O'Neill would change his addictive behavior and Scott Fitzgerald not, nor that a brief psychoanalysis would have done the trick in O'Neill's case. Samuel Pepys and James Boswell both struggled to control their sexual appetites according to Stone's (1979) *The Family, Sex and Marriage in England 1500–1800.* Pepys appears to have mastered his urges in the end, whereas Boswell, who deteriorated and finally was having severe difficulty controlling his gambling and alcohol intake as well, did not. Hypersexuality (Orford, 1978a), like alcoholism, appears also to have a variable and unpredictable outcome. We know from long-term follow-up studies of excessive drug takers (e.g., Thorley, Oppenheimer, & Stimson, 1977) that the same is true of drug addiction.

Change Outside Formal Treatment

This uncomfortable fact has already been referred to by Jim Prochaska in his chapter in this volume. Among the most interesting demonstrations are the studies by Saunders and Kershaw (1979) of changes by problem drinkers in Clydeside, Scotland, and Tuchfeld's (1981) similar study in Texas. Saunders and Kershaw interviewed 60 people who had once had drinking problems but no longer did. Nineteen were "definitely alcoholics." The other 41 "problem drinkers" mentioned getting married (most likely for those who had been under 30 at the time), changing jobs, and having a physical illness (more common for those over 30 at the time) as the three most common reasons for change. Family advice, finances, general practitioner advice (three cases), and ageing were other reasons stated by at least two respondents. This group made no mention of specialized treatment at all. Even for the smaller group of "definite alcoholics," getting married and changing jobs still headed the list of stated causes of change. Treatment, including Alcoholics Anonymous, was mentioned by seven members of this group, but even here the majority claimed to have given up a severe drinking problem without the aid of formal treatment. In our own study of treatment versus advice for married problem drinkers referred to a psychiatric clinic (Orford & Edwards, 1977), patients in the advice group, who did just as well as those in the more intensive treatment group, nominated changes in work and marriage as the two most common reasons for change.

Tuchfeld (1981) advertised for people who had given up drinking problems without treatment. Many of the 51 people he subsequently interviewed were resistant to being labeled alcoholics and were adamant that they had helped themselves without the aid of others. For example:

> The one thing I could never do is go into formal rehab.; For me to have to ask somebody else to help with a self-made problem, I would rather drink myself to death. (p. 631)

Like Premack (1970), who had analyzed reasons people give for giving up smoking, Tuchfeld found "humiliating events" to be the most frequently cited reason for change. These included a pregnant woman feeling her baby quiver and concluding she could be harming her unborn child by drinking; a man who stopped drinking when his father died, having concluded that his own drinking was one of the causes of his father's death; and another lying in the hospital and coming to the realization that drinking could be the main cause of his health and other problems. Negative role models, such as Skid Row drinkers who shocked people into considering change, and family members, particularly when they were seen to have provided persistent support, were

also influential. So was religion, although most cases showed a gradual increase in commitment, rather than a classic and sudden religious conversion.

Tuchfeld concluded that the change process was essentially social in nature, but was rarely if ever "spontaneous" in the sense of developing without apparent external influence. Schachter (1982) studied changes in smoking and eating behavior without treatment and Robins, Davis, and Wish's (1977) description of the apparently "spontaneous" remission of drug taking on the part of Vietnam veterans on returning home to the United States is well-known. A number of years ago Winick (1962) spoke of the "maturing out" of drug addiction and Drew (1968) wrote of alcoholism as a "self-limiting disease." Both observed that the prevalence of addictive behaviors was less at certain ages than at others (fewer drug addicts in their thirties than in their twenties, and fewer alcoholics in their fifties and sixties than in their thirties and forties) and that these differences were greater than could be accounted for by formal treatment or mortality.

Nonspecialist Professionals as Effective Agents of Change

It is some years since Chafetz, Blane, and Hill (1970) demonstrated that physicians often failed to detect drinking problems, and that they were particularly likely to do this if the patient appeared to be of higher status (well dressed, employed, etc.) or if a straightforward physical diagnosis was available. More recently in London, Cartwright and his colleagues (Cartwright, 1980; Shaw, Spratley, Cartwright, & Harwin, 1978) have demonstrated that the therapeutic commitment to working with problem drinkers is often low among such groups as general practitioners, probation officers, and social workers. Two factors appear to be necessary, from their studies, in order to overcome these negative attitudes. The first was practical experience of treating people with drinking problems; it is so often the experience of helping agents that one or two such cases come their way during training or shortly afterwards, and that the outcome is apparently unsuccessful. As a result, such problems are avoided for the rest of the person's career. The second necessary ingredient for encouraging positive attitudes among nonspecialists was the availability of support from supervisors, colleagues, or others in responding to drinking problems.

Some results from a study recently completed in Exeter illustrate the positive role that such agents can play in the change process when their attitudes are encouraging. The study was principally concerned with abstinence versus controlled drinking as alternative outcomes (Orford &

Keddie, in press-a,b), but the one-year follow-up included questions about the perceived helpfulness of agencies other than specialists.

The most frequently mentioned alternative help source was the general practitioner (GP) (21 out of 34 clients). Although unfavorable comments outnumbered favorable, six clients had only positive things to say about their GP and a further six were mixed in their comments. GPs appear to have been particularly helpful for those clients who had finally adopted abstinence. The nature of the positive and negative comments about GPs provide a fairly clear picture. The largest category of positive comments suggested that the GP was available, particularly at crucial times, and was able to address the issue of excessive drinking. For example, "I have seen him once a week throughout the year, just because he's there, he doesn't lose faith, he's always the same"; "I've seen him five or six times, once at a crucial period, we always discuss drink . . . he talks commonsense"; "I saw my old GP, a friend, he gave me support"; "Saw him many times, often mention drink"; "I see him regularly . . . he tries to get me into hospital"; "I damaged my ribs . . . he said take the opportunity not to drink, excellent advice, he's repeated it since"; "He gave me strong advice to abstain, he described it as a chemical reaction like diabetes, told me I shouldn't think of drinking." Other positive comments about GPs concerned the appropriate and useful prescribing of medication. Two clients felt that feedback of results of blood tests had been important, and one was grateful to her GP for arranging admission at a crucial time.

Of the negative comments about GPs, three concerned medication. The large majority of negative comments, however, referred not to specific procedures or methods, but rather to the absence of a positive relationship with the GP for one reason or another. Some felt that their GPs were too busy to do other than be concerned with aches and pains, blood pressure, or the giving of prescriptions. Others felt their GPs were unsympathetic, in one case stating that a year was not a long time to have been virtually abstinent, and in another giving a patient what the latter perceived as a "dressing down." One client felt that his GP was inconsistent, on one occasion recommending reduced drinking and on another abstinence, and another client complained that he saw a different doctor every time he went to the Surgery. Several others felt that their GPs were of little use, either because they could do nothing other than prescribe or arrange hospital admission, or alternatively because the client admitted she had been uncooperative.

Other agencies, such as social workers, were mentioned less frequently, but our conclusions were the same. Hence a coherent picture of the treatment process emerges. Although many will understandably

question the generalizability of this picture, it is one in which successful treatment agents build upon their clients' beliefs and preferences by offering a relationship that may be brief or prolonged, but that offers understanding rather than condemnation, more often than not supports a client's own goal, and helps bring objectivity to clients' perceptions of the place of excessive drinking in their lives.

To anticipate a point I will make again later, it should be pointed out that these conclusions are little different from those reached by Thomas Trotter (1804) nearly two hundred years ago. His prescriptions were mainly nonspecific and left little room for the paraphernalia of specific expert treatments. "The relationship is the essential tool," Trotter advised:

> Within the setting of that relationship confrontation can be used—particular opportunities are therefore to be taken to hold a mirror as it were, that he may see the deformity of his conduct and represent the incurable maladies which flow from perseverance in the course of intemperence. . . . confrontations should be joined with offer of hope—at the conclusion of every visit, something consummatory must be left for amusement, and as food for his recollection.

The Uniform Results of Specialist Treatments for Addictive Behaviors

Goodwin (1971) attributed O'Neill's change to brief psychoanalysis, although to my knowledge this particular form of treatment is not one that has been highly commended for the treatment of alcohol problems or other addictive behaviors. This illustrates the now familiar fact that most forms of treatment for the addictive behaviors meet with some success irrespective of the particular techniques employed. The conclusion to be drawn from a great deal of research that has been carried out on this subject is not that treatment does not work, but rather that when it does work, it does not do so for the reasons supposed.

Bernstein's (1970) study of "unaided quitting" by smokers, and our study of advice versus treatment for problem drinkers (Orford & Edwards, 1977) both found that advice to quit (smoking and drinking respectively) was as effective as more intensive treatment. It is important to be clear, however, that our "advice" was given by a high-status medical consultant, in the presence of the problem drinker's wife (all the problem drinkers were men in our study) and two other members of staff, at the end of a 4-hour-long period of assessment, during which husband and wife had seen a number of members of the team separately and jointly. These sessions took place in a high-prestige psychiatric hospital to which the couple had been invited after referral from their general practitioners. During the advice giving itself, the couple was

clearly told that the problem was one of drinking, that it could be overcome if the client gave up drinking altogether—this was before the days of flexible drinking goals—that no treatment as such was available to help a person achieve this, and that the solution was clearly in their hands. In other words, we gave each couple a lot of time and attention, and there were a whole host of nonspecific factors encouraging commitment to change. Bernstein, in his smoking study, also sent smokers away with the clear message that the responsibility for stopping smoking was theirs and that no further treatment would be forthcoming.

Other studies have even found countertheoretical treatments to be as effective as theoretically appropriate ones. For example, Russell, Armstrong, and Patel (1976) found noncontingent aversion theory (aversive stimuli being delivered at the wrong time according to the learning theory principles on which the effectiveness of aversion therapy is supposed to be based) to be as effective as aversion therapy carried out in the proper fashion. Similarly Ley, Bradshaw, Kincey, Couper-Smartt, and Wilson (1974) found a "willpower" control group (overeaters were advised to go into supermarkets when *hungry*, to *leave* tempting foods around at home, etc.) to be as effective as theoretically appropriate advice in the context of a behavioral self-control treatment program. The important point is that, although the specific procedures may have been theoretically wrong in some of the treatment groups in these studies, all treatments were similar in terms of nonspecific factors enhancing commitment to change. DiClemente and Prochaska (1982) were surprised to find that even clients who received aversion therapy rated "self-liberation" as one of the most important factors in the change process. Gardner (1964), on the other hand, perhaps because he was a clergyman, was one who could appreciate the symbolic and self-liberating elements in the aversion therapy he received for his drinking problem:

> The great boon, for me anyway, was the feeling of freshness which accompanied the treatment: the body was livelier, eyes clearer, and a new alertness took the place of the former mental lethargy. Even more than this were the spiritual benefits. To one who had lived and thought for much of his life in terms of sacramental symbolism, it was easy to see how the sudden, sharp expulsion of alcohol, and its attendant poisons, from the body, could be allied with the exorcism of that devil-desire to drink: and on each fresh appointment with the trolley of drinks there was a decisive sense of waking to a new life. (p. 215)

My argument, then, is that special treatments for addictive behaviors often work, but they rarely work for the reasons favored by our cherished theories. The effective ingredients are more likely to lie, if my reading of the literature is correct, in the direction of the consciousness-raising and commitment elements. This leads me on to my final, and perhaps the least palatable to modern professionals, fact.

Moral or Spiritual Elements of Change

There are a number of reasons for stating that change often contains a large moral or spiritual element. Most obvious is the huge success of Alcoholics Anonymous. Although A.A. publishes no figures about outcome success rates that would match up to our high scientific standards, its success as a confident, widespread, and ever-growing self-help group is in no doubt. David Robinson's chapter in this volume makes this fact quite clear. Furthermore, there can be little doubting its spiritual aspects: God or a Higher Power is mentioned in no fewer than 6 of the 12 Steps. Glaser (1973) has traced A.A. and the origins of the drug-free therapeutic communities, such as Daytop Village, Synanon, and Phoenix House, to the Oxford Group Movement, a worldwide and still-functioning organization, originally known as the First Century Christian Fellowship and later as Moral Re-armament. It was from this source that A.A. received its ideas of self-examination, acknowledgment of character defects, restitution for harm done to others, and working with others. Among the key practices of the Oxford Group Movement was "sharing," by which was meant the open confession of sins at large public meetings or smaller "house parties."

Like many others, I have been intrigued by 19th-century attempts to bring about change in excessive drinkers, and have wondered whether the processes at work were the same as those that operate, under very different circumstances, in our modern treatments. It may be impossible to know now whether old-fashioned pledge taking was more or less successful than our favored treatments, but it does appear that the former was sometimes on a rather larger scale. McPeek (1972), in his history of the American temperance movement, tells us that claims were being made that as many as a third of a million people had signed abstinence pledges in 3 years following the foundation of the American Temperence Union. The Washington Temperence Society claimed between 150 and 250 thousand pledged members in the few years of its existence in the 1840s. Both McPeek (1972) and Longmate (1968), in his history of the British temperance organizations, describe the influence of Father Mathew of Cork, one of the most famous of all temperance reformers. By all accounts, this one man had such a sizable influence on the volume of consumption of alcohol in Ireland that the drinks trade did their best to break up his meetings when he attempted to carry his message across the water, first to England and then the United States. From the few sources available to him, McPeek estimated the follow-up success rate after the Washingtonians and Father Mathew's campaigns at around 25% to 30%. The similarity between these estimates of the numbers who managed sustained change in drinking habits following

exhortation and pledge taking within a religious context and the percentages of success estimated by observers of the modern treatment scene is striking.

Although the changed values of modern society would not allow us to return wholeheartedly to the moral persuasion techniques of the last century, I have argued elsewhere (Orford, 1985) that modern treatments, when examined closely, are much more of a subtle blend of directive and nondirective, the spiritual and the scientific, than we would like to think. This is true of Alcoholics Anonymous (Tiebout, 1961), small therapeutic halfway houses (Otto & Orford, 1978), and psychiatric clinics (Davies, 1979). Tiebout wrote of the need for "humility" and "surrender" to the A.A. program; the halfway house staff whom we studied spoke of "putting in a lot," being "part of the house," being "realistic" and "thoughtful," and showing "an appropriate attitude"; and Davies' doctors spoke of "sincere determination to do something," "realising that she must stop drinking," "a sensible and constructive attitude," "motivation," and "insight." Self-control therapists and others may argue that they have purged their treatments of all such nonsense, but I doubt it.

TOWARD A MODEL OF CHANGE

Whatever our new understanding of the change process, it must, therefore, account for dramatic but unpredictable changes in addictive behavior, for the fact that most change occurs outside treatment, and that those changes that occur in a treatment context often occur in the nonspecialist setting and for nonspecific reasons, and that people have been changing addictive behaviors for centuries and often in circumstances that seem to us very alien from our present perspectives. Models of change must be able to account for Father Mathew converts, Synanon graduates, A.A. successes, unaided quitters of smoking and reducers of eating, Clydesiders and Texans who give up excessive drinking when they get married, returning war veterans who give up their drugs, and others who simply grow older and wiser.

Where should we look to gather the necessary ideas in order to build a new model of change in the addictive behaviors? I have thought for some time that we could profitably look outside the clinical sphere in the direction of general social psychology (Orford, 1971, 1978b, 1985), and in particular toward the work of Janis and his colleagues on the processes of decision making (e.g., Janis & Mann, 1968, 1977). I am delighted to see, from Claus Appel's chapter and others, that the importance of this work on how decisions are made is now being recognized.

Janis and Mann's (1977) book, *Decision Making: A Psychological Analysis of Conflict, Choice, and Commitment*, is concerned with all manner of important life decisions, including making changes in addictive or potentially addictive behaviors, such as smoking and eating, other decisions about health, choices about jobs, housing, and marriage and divorce, what to do when given warnings of impending natural and other disasters, as well as decisions of a political and executive nature. Janis and Mann would have appreciated Marcus Grant's assumption, in his chapter in this volume, that governments go through a similar process in responding to national drinking problems as do individuals faced with a decision about their own addictive behavior.

This breadth of thinking has great appeal. It immediately makes available to us bodies of theory and knowledge about human experience and action that would be closed to us if we confined attention to the traditional clinical areas of alcoholism and drug addiction studies. I have not the space here to do justice to the many insights that Janis and Mann offer, and I would recommend that people read their book carefully. There are, however, a number of features of their approach that I find particularly applicable.

Features of Janis and Mann's Model of Decision Making

One of the most attractive aspects, for our purposes, is the central place that they give in their model to the ideas of loss and conflict. Many decisions, particularly those concerning health, involve loss according to Janis and Mann. The greater the loss involved, the greater the conflict about taking health-promoting or illness-avoiding decisions. In the case of addictive behaviors, the inclination to reduce or abstain from behavior would be opposed by the positive incentives for carrying on with behavior as before. This leads directly to the formulation of such conflicts in terms of a payoff matrix or balance sheet of "pros" and "cons" for different courses of action. Janis and Mann's model of general decision making contains, then, the idea of dilemma or conflict, a vital ingredient for an understanding of change in addictive behavior and one that has been missing from disease and other previous models.

A second, and very significant, attraction of viewing addictive behavior change in terms of decision making is the light this throws on what Prochaska calls the precontemplation stage. In Janis and Mann's terms, defensive avoidance of making a decision is particularly likely to occur when such decisions are highly "ego-involving." Under the heading of defensive avoidance, they list a number of tactics, including selective inattention to relevant informal or mass media communications, distracting the self, buck-passing, bolstering by oversimplifying, distort-

ing, evading, omitting major considerations, exaggerating favorable consequences, minimizing unfavorable consequences, exaggerating the remoteness of any action required, as well as recourse to alcohol or drugs! Previous models of addictive behavior change have no way of handling such behavior, other than attributing it to "poor motivation" or, what is worse, to "personality disorder." With the help of decision-making theorists we now have a way of understanding such behaviors in terms of the highly ego-involving personal conflict surrounding the need to change addictive behavior.

Janis and Mann also speak of five stages of the decision making process, although their correspondence with the stages considered in this volume is far from exact. Their first two stages, reappraisal and considering options, may correspond to contemplation, and their stages three and four, selecting one option and acting upon this choice, to the action stage. Their fifth, consolidation, looks like maintenance. They acknowledge that reappraisal may take place over a long period of time—the "slow burn" type of chronic reappraisal as they call it—and that there may be many reversions to earlier stages of the process. Once again, the idea of reversion to an earlier stage of the decision-making process carries with it a greater understanding of what is happening than does the term *relapse.*

Particularly valuable is the emphasis that Janis and Mann place on recommendations for new behavior. Once again, the term *recommendation* immediately broadens our appreciation of the influences that may be brought to bear on someone embarking on addictive behavior change. Recommendations may come from family, friends, or the mass media. There is certainly no suggestion that the source of an influential recommendation need be an expert or a professional, although it may come from a prestigeful source, such as a government report on smoking and lung cancer. What an effective source or recommendation for addictive behavior change does require, perhaps, is some basis for social power or influence over the person to whom the recommendation is directed. Table 1 lists the types of social power outlined by French and Raven (1959), with a rudimentary attempt to suggest the types of people who may be in a position to exercise these forms of power for addictive behavior change.

Finally, in this very partial list of attractive features of Janis and Mann's decision making model, is their idea that vigilance is required in order to make good, and stable, life decisions. This notion serves to bring together a number of ideas discussed in this volume about the personal actions required to consolidate addictive behavior change, as well as similar ideas that have existed for decades or even centuries past. Their central idea is that all factors for and against a particular course of

TABLE 1.
Types of Social Influence and their Possible Uses for Addictive Behavior Change

Reward power	Based on the perception that this person has the ability to give or withhold rewards, e.g., partner, employer.
Coercive power	Based on the perception that this person has the ability to give or withhold punishments, e.g., partner, the law.
Referent power	Based on identification, e.g., close friend, admired other, someone who has previously made a similar change.
Expert power	Based on the perception that this person has some special knowledge, e.g., general medical practitioner, addiction counselor, some mass media presentations.
Legitimate power	Based on internalised norms and values that dictate acceptance of influence from this person, e.g., a parent.

Note. Based on French and Raven's (1959) typology of the bases of social power.

action, including factors impinging on the self and those impinging on others, those that involve material considerations and those that are more subjective, should be laid out and carefully considered and reconsidered before coming to a decision. Anything, including defensive avoidance, that detracts from this process will reduce the quality of the decision-making process. In particular, they recommend the drawing up of a balance sheet with pros and cons for different courses of action. To make the point that there is nothing new about this procedure, they provide the following quotation from Benjamin Franklin, who wrote to the scientist Joseph Priestley in 1772 in the following terms:

> When those difficult cases occur, they are difficult, chiefly because while we have them under consideration, all the reasons pro and con are not present to the mind at the same time; but sometimes one set present themselves, and at other times another, the first being out of sight. Hence the various purposes or inclinations that alternatively prevail, and the uncertainty that perplexes us. To get over this, my way is to divide half a sheet of paper by a line into two columns; writing over the one Pro, and over the other Con. Then, during three or four days consideration, I put down under the different heads short hints of the different motives, that at different times occur to me, for or against the measure. When I have thus got them all together in one view, I endeavor to estimate their respective weights; and where I find two, one on each side, that seem equal, I strike them both out. . . . and thus proceeding I find at length where the balance lies; and if, after a day or two of further consideration, nothing new that is of importance occurs on either side, I come to a determination accordingly. And, though the weight of

> reasons cannot be taken with the precision of algebraic quantities, yet when each is thus considered, separately and comparatively, and the whole lies before me, I think I can judge better, and am less liable to make a rash step, and in fact I have found great advantage from this kind of equation, in what may be called moral or prudential algebra. (Janis & Mann, 1977, p. 149)

William James (1891), writing about habits in his *Principles of Psychology*, already knew a lot about the need for action if permanent changes were to be made in habitual behavior. He quoted with approval from Professor Bain who wrote in his *Moral Habits:*

> In the acquisition of a new habit, or the leaving off of an old one, we must take care to *launch ourselves with as strong and decided initiative as possible.* Accumulate all the possible circumstances which shall re-enforce the right motives; put yourself assiduously in conditions that encourage the new way; make engagements incompatible with the old; take a public pledge, if the case allows; in short, envelope your resolution with every aid you know. . . . *Never suffer an exception to occur till the new habit is securely rooted in your life. . . . Keep the faculty of effort alive in you by a little gratuitous exercise every day.* That is, be systematically ascetic or heroic in little unnecessary points, do every day or two something for no other reason than that you would rather not do it, so that when the hour of dire need draws nigh, it may find you not unnerved and untrained to stand the test. (James, 1981, pp. 122–126)

The need for action to consolidate decision is well known in Alcoholics Anonymous. For example:

> Don't for a split second allow yourself to think: "Isn't it a pity or a mean injustice that I can't take a drink like so-called normal people". . . . Don't allow yourself to either think or talk about any real or imagined pleasure you once did get from drinking. . . . Don't permit yourself to think a drink or two would make some bad situation better, or at least easier to live with. Substitute the thought: "one drink will make it worse—one drink will mean drunk". . . . Catalogue and re-catalogue the positive enjoyments of sobriety. . . . Cultivate a helpful association of ideas: Associate a drink as being the single cause of all the misery, shame and mortification you have ever known." (A.A., undated)

Sjoberg and his colleagues in Sweden (Samsonowitz & Sjoberg, 1981; Sjoberg & Johnson, 1978) are almost alone among modern researchers in daring to examine the notion of willpower in addictive behavior change. They write of the need for "high-quality information processing," and the occurrence of volitional breakdowns accompanied by "low-quality information processing" and "twisted-reasoning." In a study of a small number of excessive drinkers, Samsonowitz and Sjoberg found an inverse correlation between the number of relapses and the number of techniques used, such as bringing to mind the positive consequences resulting from maintaining a decision, or the negative consequences of going back on the decision, conscious plan-

ning and preparation prior to the decision, avoiding difficult and tempting situations, and performing alternative activities.

Three Things to Expect of a Theory of Change in Addictive Behaviors

As well as having a number of attractive features, including those previously outlined, an understanding of change in terms of decision making begins to do three general things that we should expect of a theory of addictive behavior change, and which a disease model does not do.

1. It should unite different addictive behaviors on an equal footing. Disease models were always more comfortable with hard-drug addiction and severe drinking problems. It was clear that they were stretched to the breaking point when considering the full range of alcohol-related problems, the full range of forms of drug misuse, and certain forms of eating disorder. They were never serious contenders for embracing excessive gambling, most forms of excessive eating, excessive sexuality, and even tobacco smoking. On the other hand, all can be embraced within a model of decisional conflict.

2. Ideally, our theory should unite early and late choices or decisions. We can now begin to talk in the same terms about early decisions to take up a new form of potentially addictive behavior and late decisions to give up a form of addictive behavior that has become troublesome. In terms of practice, this is probably the single most important aspect of the shift from disease to psychological models of addictive behavior.

3. Our theory should unite the clinical and the social-epidemiological fields. It was always unhelpful to use one language to describe a clinical change process (motivation to enter treatment, therapist, patient, relapse, etc.) and another to describe the more numerous changes that occur elsewhere (decision, spontaneous, unaided, etc.). A theory of conflict, decision, and action, with the help of influence based on social power of one kind or another, meets this criterion for a satisfactory theory much more adequately.

Three Points That May Cause Trouble

There are three aspects of change in addictive behaviors that, in my view, receive less than adequate attention in this volume. The first of these is probably easily accommodated in a decision-making model of change, but the others may cause difficulties.

1. We have given little attention to the possibility that change is

most likely to occur at times of crisis. Is it the case that change is particularly likely to be initiated at one of a limited number of occasional choice points in a career of addictive behavior? There is a saying that problem drinkers seek change only because of livers, lovers, livelihood, or the law. Are changes confined to those times when one of these factors plays up, when some humiliating event occurs, or perhaps when a person enters a new role position (e.g., as father, mother, manager, widow)?

2. The moral or spiritual aspects of the change process, discussed above, are largely missing. Whether an understanding of change in terms of a specific decision or action about an addictive behavior can do justice to changes involving widespread modifications of attitudes and values remains to be seen.

3. To those not brought up within a behavioral tradition, and not familiar with a health-education approach, our deliberations must appear very addiction focused. The assumption has been that change occurs because people contemplate or appraise their position regarding the addictive behavior, that they consider the pros and cons regarding it, that they monitor their behavior carefully, that they take action about it. We have given little attention to the possibility that some change may occur because the addictive behavior loses its meaning or its functional significance, possibly without any direct contemplation or action, or even without the person being aware that the addictive behavior was changing at all. This is presumably one of the ways in which "maturing out" works: as a person ages the formerly addictive behavior simply ceases to perform the functions that the older person values.

IMPLICATIONS FOR PRACTICE

If we are going to abandon a disease model and replace it with one based on human choice or decision making, and if this model, as I have suggested, links a variety of addictive behaviors, equates early and late choices, and views the therapeutic setting as simply a special case of settings for change, then our practice will surely need to alter also. For many of us this may present problems. Our training and our subsequent careers have been spent in medical, or quasi-medical, institutions. Our disdain for disease models notwithstanding, our skills lie in treating people within a medical-like format of therapist and client.

As a teacher of clinical psychology, this concerns me not a little. My perception is that graduates are increasingly applying for such training in order to be therapists rather than to apply psychology in the most effective way, whatever that turns out to be. On the other hand, I am

much encouraged by the community psychology movement, which is much better advanced in the United States than in the United Kingdom, and in the development of community forms of alcohol service delivery which I suspect are better developed in the United Kingdom where the National Health Service has given strong backing (sceptics would say on grounds of cost) to the development of community alcohol teams. My experience of working in one such team in Exeter is that the techniques and skills required are much broader than those implied by the term *therapist*. The team has needed to develop knowledge of how to select people to train as volunteers, to teach a multidisciplinary audience using a range of visual aids, to provide a consultancy service to health, social services, prison and probation personnel, to evaluate, to make decisions in a team, and to use the local media to best advantage. Appropriately, the team's institutional affiliation is a hybrid one. Its headquarters is a health service building, part of which is leased by the voluntary Council on Alcoholism, which is an integral part of the whole team. In addition, there are members of the team from social services, probation, and health education.

We have witnessed a revolution in thinking about alcohol problems and other addictive behaviors in recent years (Sobell & Sobell, 1984). The change has been rapid. Are our institutions for training and practice so flexible?

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6

Trying to Stop Smoking
A Decision-Making Perspective

STEPHEN SUTTON

The theoretical perspective that guides this chapter is that processes of change in the domain of addictive behaviors can be understood in terms of individuals' *decisions* based on evaluating the possible outcomes of the courses of action available to them. The key decision is seen as one of whether or not to try to change one's behavior (e.g., to try to stop smoking, to try to reduce one's consumption of alcohol, to try to lose weight). Once the person has embarked on such an attempt, he or she will be faced repeatedly with another decision, namely whether to persevere with the attempt, often in spite of unpleasant withdrawal symptoms, or whether to abandon it. It is an unfortunate fact that the decision to try to change can always be deferred and, when acted on, can be revoked at any time.

Based on this perspective, this chapter presents a formal theoretical model for explaining smokers' decisions to try to stop smoking. The model is based on subjective expected utility (SEU) theory (Edwards, 1954). Expectancy-value models have been widely employed in psychology, but there have been surprisingly few applications in the field of addictive behaviors. The model presented here takes into account the fact that an attempt to give up smoking may or may not be successful

STEPHEN SUTTON • Addiction Research Unit, Institute of Psychiatry, 101 Denmark Hill, London SE5 8AF, England. I would like to thank the Medical Research Council, London, England, for their financial support.

and that the consequences for the individual are conditional on the success or failure of the attempt. After describing the model, I will present data from three studies that were designed to evaluate this or related models.

THE MODEL

The model used in this chapter is derived from subjective expected utility or SEU theory. The subjective expected utility for a course of action is the sum of the *subjective values* or utilities attached to the possible outcomes of that action, each weighted by the *subjective probabilities* that the action will lead to those outcomes. According to the model, a person faced with two or more alternative courses of action will choose the one with the greatest subjective expected utility. Put simply, the person will choose the course of action that they think, on balance, will bring them more of what they want and less of what they dislike or fear. It should be noted that the SEU model is an "as if" model. In other words, it is not suggested that in making decisions people consciously perform the multiplications and additions implied by the model, only that they behave *as if* they do these calculations.

To see how this approach might be applied to smoking, consider a smoker who has just watched a television program on the subject of smoking and lung cancer. The choice facing the smoker can be seen as one of continuing to smoke or trying to stop. Obviously other options are available (e.g., cutting down, switching to a milder brand) but for present purposes we are concerned only with the two options of continuing to smoke or trying to stop. Figure 1 shows the decision-tree diagram for this situation where there is only one long-term outcome (lung cancer). The second action alternative, trying to stop smoking, may end in success or failure. The subjective probability of succeeding, given that an attempt is made (P_s in the diagram), we call "confidence." The subjective probabilities of success and failure are assumed to sum to unity ($P_s + P_f = 1$). There are two other subjective probabilities in the model. P_c is the subjective probability of getting lung cancer given that one continues to smoke (or tries and fails). P_r is the subjective probability of getting lung cancer given that one successfully stops smoking. Finally, U is the utility of lung cancer, which will be negative.

Under the assumption that subjective probabilities and utilities are combined multiplicatively, it is a simple matter to show that the decision to try to stop smoking will depend on three factors:

1. The utility the person attaches to lung cancer (U)

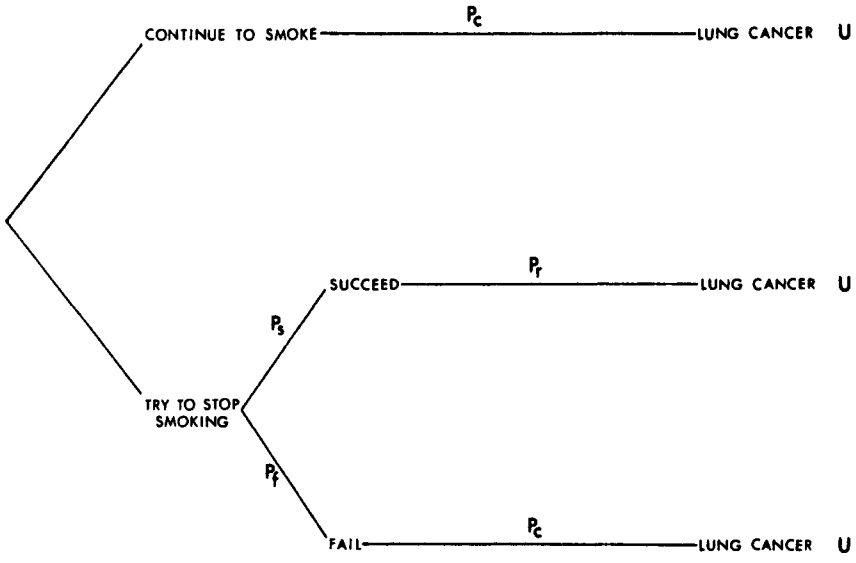

FIGURE 1. Decision-tree diagram of the choice facing a smoker who is exposed to a fear-arousing communication about lung cancer (from Sutton & Eiser, 1984).

2. The probability difference ($P_c - P_r$), that is, the reduction in the perceived risk of getting lung cancer that follows from successfully stopping smoking
3. The subjective probability of succeeding given that an attempt is made (P_s), or confidence

Thus, according to the model, a smoker will be more likely to try to stop smoking to the extent that he or she believes: (a) that such an attempt is very likely to end in success (high confidence); (b) that lung cancer is extremely serious; and (c) that lung cancer will be much less likely if they stop smoking than if they continue to smoke.

It is important to appreciate that the proposed model is entirely compatible with the notion that smokers are physically or psychologically dependent on nicotine. For example, a smoker who is contemplating whether or not to try to stop smoking may anticipate unpleasant withdrawal symptoms, and these may in fact be nicotine related. From the standpoint of the model, however, it is the smoker's expectations regarding such outcomes, regardless of their possible basis in nicotine dependence, that will influence his or her decision.

Expectancy-value models are sometimes dismissed on the grounds that they make the unrealistic assumption that people behave rationally. This is true only in a limited sense, however. The model in fact permits several kinds of what might be called irrational or suboptimal behavior.

For example, smokers may hold beliefs that conflict with the scientific evidence: a two-pack-a-day inhaling smoker who has smoked for 20 years may believe that his or her chances of getting lung cancer are nil. Again, people may fail to take into account all the relevant outcomes or all the alternative courses of action open to them. On the other hand, the model does assume that peoples' behavior is rational in the sense of being future oriented and in the sense that they attempt to maximize expected outcomes.

STUDY 1

The first study (Sutton & Eiser, 1984) was designed to investigate the utility of this single-outcome SEU model in explaining the response of smokers to a film about smoking and lung cancer. In an experimental design, groups of smokers watched either a film about smoking and lung cancer or a control film on a different health topic. The smoking film we used was a television program called "Dying for a fag?" made by Thames Television and originally broadcast in the United Kingdom in 1975. It consists of an extended interview with a man who is dying from lung cancer and includes information about the health risks of smoking. The effects of the film were assessed by means of questionnaires completed immediately and 3 months after exposure. Our subjects were 61 office workers from two companies based in London. They smoked on average 17 cigarettes a day.

Figure 2 shows the causal model for this study. *Film* refers to the between-film contrast (i.e., the experimental film versus the control film), and *behavior* refers to whether or not the smoker tried to stop smoking or to cut down in the 3-month follow-up period. The other variables in the diagram were all measured by means of single rating scales on the questionnaire administered immediately after watching the film. *Intention* is assumed to represent the person's decision at this time. *Probability difference, utility,* and *confidence* were predicted to mediate any effect of the film on intentions and subsequent behavior. Because fear has traditionally been regarded as the central explanatory construct in research on the effects of communications about health risks, we also included a measure of the amount of fear aroused by the film.

Figure 2 shows the results of multiple regression analyses of the data. The numbers on the paths are the standardized partial regression coefficients, or betas, which can be interpreted as estimates of the direct effects of one variable on another, given the causal ordering shown in the diagram. Specifically, they estimate that portion of the observed correlation between two variables that is due to the direct causal effect of

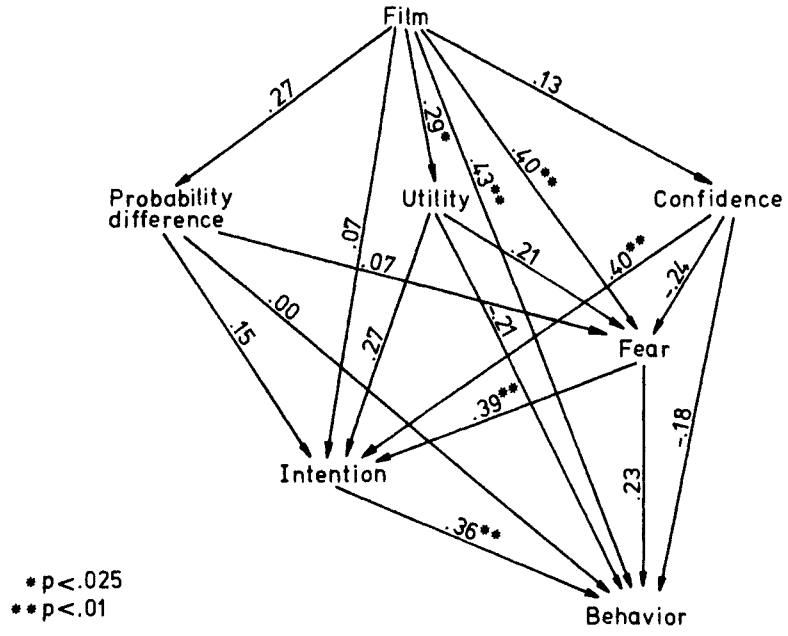

FIGURE 2. The estimated path model for Study 1 showing the direct effects in terms of the standardized partial regression coefficients (from Sutton & Eiser, 1984).

one variable on the other. Their size may be judged by reference to the more familiar correlation coefficient (bearing in mind that, unlike correlations, beta coefficients may in some circumstances exceed unity). This approach to data analysis is useful in that it allows the total effect of one variable on another to be decomposed into a single direct (unmediated) effect and one or more indirect (mediated) effects. Furthermore, it enables each observed correlation to be decomposed into causal and noncausal components. Sex, age, and cigarette consumption were controlled for in the analysis, but are not shown in the diagram for the sake of legibility.

As Figure 2 shows, there were a number of film effects. Relative to the control film, "Dying for a fag?" aroused more fear. The direct effect of the film on fear was .40 and the total effect (that is, the direct effect plus the indirect effects mediated by other variables) was .45. The film also strengthened intentions to try to stop smoking. Although the direct effect of film on intention was only .07, the total effect was .41, significant at the .025 level. The film also influenced the utility variable; it apparently impressed on the subjects the importance of reducing their chances of getting lung cancer. The largest effect of the film, however, was on behavior. The total effect was .59, which was significant at

the .01 level: 86% of those who saw the smoking film tried to stop or to cut down compared with 33% of those who saw the control film. Most of this effect of the film on behavior was accounted for by the direct effect of .43 (see Figure 2). Thus the five variables measured on the postexposure questionnaire did not mediate the effect of the film on behavior to any great extent.

As predicted, confidence had a significant direct effect on intention. Those smokers who thought they would be more likely to succeed if they tried to stop smoking also expressed stronger intentions to try to stop. The effects of probability difference and utility, however, were not significant. Intention was also influenced by the amount of fear aroused by the film—a direct effect of .39; those who were more frightened by the film tended to have stronger intentions to try to stop. Finally, the relationship between intention and behavior was, as would be expected, positive and significant; those who expressed stronger intentions to try to stop smoking tended to be more likely to try to stop or to cut down in the 3-month follow-up period. Forty-six percent of the variance in intention and 57% of the variance in behavior was explained.

STUDY 2

The second study (Sutton, 1979) differed from the first in that a full SEU model was used. Instead of focusing on one long-term outcome (lung cancer), a number of different outcomes were assessed. It also differed in employing a nonexperimental design.

The source of data for the study was a sample of 2,000 smokers randomly selected from over half a million smokers who sent for a free stop smoking kit offered by Granada Television's "Reports Action" program. A questionnaire was included in the kits sent to these 2,000 people.

Ratings of confidence and intentions were obtained as in Study 1. The questionnaire also listed 26 possible outcomes of continuing to smoke or stopping smoking ("Be irritable with people," "Get lung cancer," "Put on weight," etc.). The subjects were asked to rate each of these outcomes in terms of their subjective probabilities; for example, "If you STOPPED smoking altogether would you be more likely or less likely to be irritable with people than if you CONTINUED TO SMOKE?" They indicated their response by ticking one of five boxes labeled from "Much less likely" through to "Much more likely." Having rated the subjective probabilities associated with the 26 outcomes in this way, they then rated the utility of each outcome, which was operationalized in terms of "importance." An SEU score was computed for each person

by summing the products of the probability and utility ratings over the 26 consequences. This score is assumed to represent the benefits of stopping smoking relative to continuing to smoke, as perceived by the person. A positive score means that stopping smoking is expected to bring more benefits and fewer costs than continuing to smoke. A negative score means that continuing to smoke is expected to bring more benefits and fewer costs than stopping smoking. A score of zero indicates that the two alternatives are perceived as equally desirable/undesirable.

Subjects who returned the first questionnaire were sent a short follow-up questionnaire 3 months later to find out whether or not they had tried to stop smoking or to cut down in the intervening period. Only 106 cigarette smokers provided adequate information on both questionnaires. The most likely reason for the poor response was that the "kit" received by the subjects bore little resemblance to the one shown in the program, consisting only of a broadsheet, a cardboard no-smoking sign, a leaflet on how to stop smoking, and the questionnaire. The sample consisted of fairly heavy smokers, smoking on average 25 cigarettes a day: in fact, no subject smoked fewer than 10 cigarettes a day.

Figure 3 shows the results of regression analyses of the data. As in Figure 2, intention refers to the intention to try to stop smoking and behavior refers to whether or not the subject tried to stop smoking or to cut down in the follow-up period. As before, the numbers on the paths are the standardized partial regression coefficients.

Both SEU and confidence influenced intention. Those smokers who had higher SEU scores (i.e., who were more "motivated" to stop in the specific SEU sense) tended to have stronger intentions to try to stop

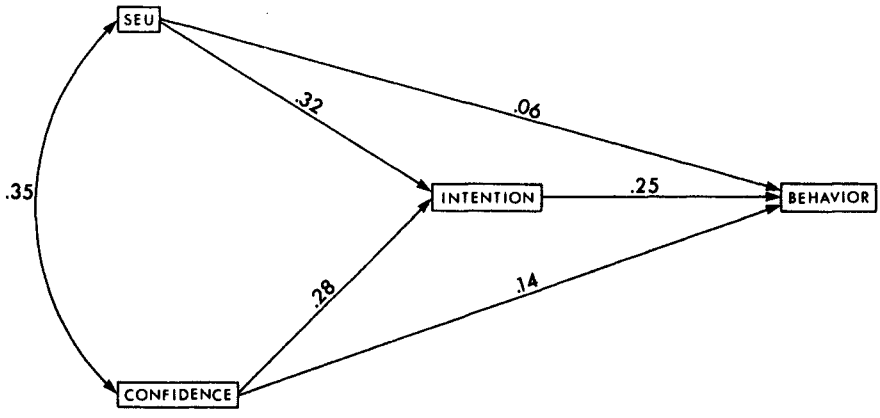

FIGURE 3. The estimated path model for Study 2 (from Sutton, 1979).

smoking ($p < .001$). Furthermore, as in the previous study, those who were more confident of succeeding had stronger intentions to try to stop ($p < .01$). SEU and confidence correlated .35, that is, those who were more strongly motivated to stop smoking were also more confident of succeeding. These two variables accounted for 25% of the variance in intention. Again, as expected, those who had stronger intentions to try to stop were more likely to report at the 3-month follow-up that they had tried to stop or to cut down ($p < .02$). Only 13% of the variance in behavior could be accounted for.

STUDY 3

The data for Study 3 come from a survey of smokers' attitudes conducted in the United Kingdom by the Office of Population Censuses and Surveys (Marsh & Matheson, 1983). I am running some additional analyses of the data in collaboration with the authors of the study. The results reported below are preliminary findings from these analyses.

A large sample of smokers representative of the United Kingdom population were interviewed and then completed a detailed questionnaire designed to assess, among other things, their confidence and intentions, and their subjective probabilities and utilities with regard to 32 possible outcomes of continuing to smoke and stopping smoking. Six months later they were sent a short questionnaire to find out whether or not they had tried to stop smoking in the intervening period.

Figure 4 shows the results of regression analyses of the data on a

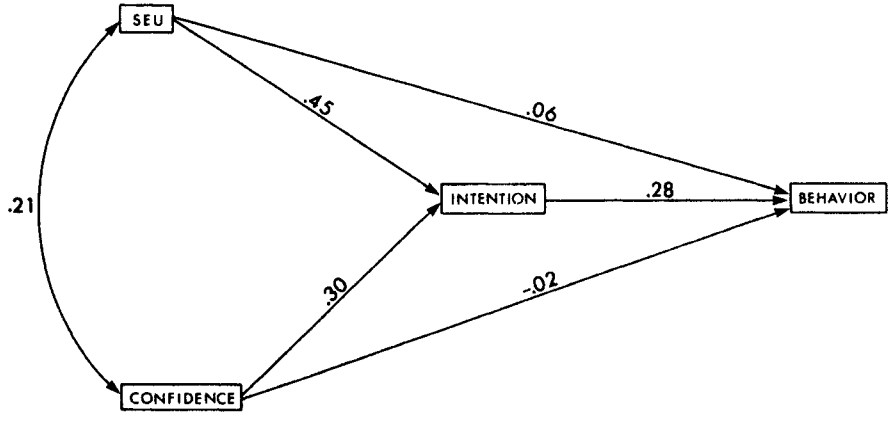

FIGURE 4. The estimated path model for Study 3.

subsample of 966 cigarette smokers. The results show a pattern very similar to that in Study 2. Again, those who had higher SEU scores, and those who felt more confident, expressed stronger intentions to try to stop; and those who expressed stronger intentions were more likely to try to stop in the subsequent 6-month period. Thirty-five percent of the variance in intentions and 9% of the variance in behavior was accounted for.

DISCUSSION

This chapter has briefly reported three studies designed to evaluate an expectancy-value model for explaining smokers' decisions to try to stop smoking. The model is clearly inadequate as a full explanation of smokers' decisions, whether these occur in response to a fear-arousing film or as part of a "spontaneous" attempt to stop. This is shown by the large unmediated effect of the film on behavior found in Study 1, and by the relatively small amount of variance in intentions and behavior that was explained in Studies 2 and 3. On the other hand, the model has been shown to have heuristic value in enabling consistent and possibly important relationships to be identified. Although sample characteristics, such as average cigarette consumption, differed from study to study, the results showed a surprising degree of consistency. For example, a positive effect of confidence on intention was found in all three studies, and in the two studies in which a full SEU model was employed, intention was also influenced by SEU score. These results suggest that it is useful to regard the attempt to stop smoking as a decision based in part on weighing up the pros and cons of stopping smoking and continuing to smoke. Moreover, the results suggest that the smoker's expectation of success or failure (confidence) also enters into this decision. Thus a smoker who is motivated to stop smoking (in the sense of having a high positive SEU score reflecting an expectation of net personal benefits from stopping smoking) will be more likely to have strong intentions to try to stop smoking if he or she also expects to succeed in such an attempt. Confidence can be seen as a way of incorporating the addictive aspects of smoking into a social-psychological analysis of smokers' decisions. From this viewpoint, what is important in understanding smokers' decisions to stop is their expectations concerning the possible outcomes of stopping smoking or trying to do so. To what extent such expectations (for example, about withdrawal symptoms) have a basis in dependence is an important question that should be addressed in future research.

ACKNOWLEDGMENTS

I am grateful to the members of the Smoking Section of the Addiction Research Unit for their helpful comments on the first draft of this chapter.

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III

Action

Aspects and Processes of Change

7

The Effectiveness of Alcoholism Treatment

What Research Reveals

WILLIAM R. MILLER AND REID K. HESTER

INTRODUCTION

In 1979 we set out together on a journey. We decided to try to read every study that had ever been published (in languages we could understand) on the effectiveness of different approaches to treating alcohol problems. We had no idea what lay in store for us.

In the course of our research we encountered four major surprises. The first of these was the sheer volume of research. We had had no conception of just how much research had been done. The chapter that resulted from our search (W. R. Miller & Hester, 1980) comprised 130 printed pages and encompassed more than 600 references. It took us 6 months just to read the research.

Our second surprise was the encouraging number of alternative treatments available for dealing with alcohol problems. We found empirical information on more than 20 different treatment methods, a few of which we had never encountered before. Some were old and familiar.

WILLIAM R. MILLER • Department of Psychology, University of New Mexico, Albuquerque, NM 87131. REID K. HESTER • Behavior Therapy Associates, Albuquerque, NM 87110.

Others were novel applications of methods that had been used effectively to treat other problems.

A third surprise was that we were pleased at how much clinically relevant information is already available. Not only is the volume of research large, but it is gratifyingly consistent. The results of well-controlled studies in this area have seldom contradicted one another. Certain methods have a very good track record, working well across a wide range of populations and settings. Others seem to have little therapeutic value, and are rather consistently found to yield little impact on drinking behavior when subjected to controlled evaluation. Although client characteristics have not proved to be consistent prognostic indicators for alcoholism treatment *in general* (Gibbs & Flanagan, 1977), certain methods do appear to be differentially beneficial for specific types of clients. Encouraging gains have been made in deriving differential diagnostic schemes that will allow the professional to help clients select an optimal approach (Gottheil, McLellan, & Druley, 1981; cf. Chapter 8, this volume).

But the fourth surprise was, for us, the most disturbing. As we constructed a list of treatment approaches most clearly supported as effective, based on current research, it was apparent that they all had one thing in common as of 1979: they were very rarely used in American treatment programs. The list of elements that *are* typically included in alcoholism treatment in the United States likewise evidenced a commonality: virtually all of them lacked adequate scientific evidence of effectiveness. We were shocked. The problem, it seemed, was not that "we know not what we do," but rather that in the alcoholism field we are not applying in treatment what is already known from research.

Since 1979 we have continued to read the emerging research on treatment outcome and to search still further to accumulate whatever knowledge might be available. Among the questions that have fascinated us are: (a) Which treatment methods are most effective in treating alcohol problems? (b) What types of individuals do best within each alternative method? and (c) How is effectiveness influenced by the length, intensity, or setting of treatment?

In the 6 years since our original review, more than 300 new treatment reports have been published. A number of important controlled investigations have appeared, and the information available on how to select optimal interventions is still stronger than it was in 1979. Yet, as far as we can see, this research has still had virtually no effect on treatment practices in the United States, where alcoholism treatment has become a major profit-making industry.

This chapter is an overview of the evidence on effectiveness of alternative treatment approaches. Because of constraints on length, we

have had to impose several exclusionary criteria on what could be discussed here. First, we have restricted ourselves primarily to the evidence from *controlled* research; that is, studies including either random or matching assignment designs with control or comparison groups. Given the wide variability in treatment outcome across populations, we believe that controlled designs offer the best hope of providing reliable and replicable results. Second, we have focused on studies evaluating the impact of treatment on *drinking behavior*. Many studies have evaluated treatment effects on alcoholics' mood, compliance, anxiety, insight, or other variables, but we have emphasized here those studies including measures of change in alcohol consumption. Third, we have discussed only *treatment* interventions with problem drinking populations, and have not included preventive interventions. Finally, we have concentrated on presenting the "bottom line," attempting to draw reasonable and accurate conclusions from the data available. Space limitations constrain us from offering detailed methodological critiques of each study. Our prior review (1980) offers methodological commentary on some earlier studies.

SPECIFIC TREATMENT METHODS

We will give separate consideration to nine major classes of interventions, although we recognize that these methods frequently overlap or are combined. First consideration will be given to four very common elements of current treatment programs: pharmacotherapy, psychotherapy or counseling, Alcoholics Anonymous, and alcoholism education. The review of specific approaches will then conclude with evaluations of five less commonly employed approaches: family therapy, aversion therapies, operant methods, controlled drinking, and broad spectrum treatment. Finally, we will discuss the effects on outcome of treatment length and setting, and briefly review the state of knowledge on matching clients with interventions.

PHARMACOTHERAPY

The conception of alcoholism as a disease has fostered investigation of a large number of medications as potential therapeutic agents. We will summarize the evidence on three major alternative strategies of pharmacotherapy for alcoholism: (a) antidipsotropic drugs, (b) psychotropic medications, and (c) hallucinogens.

Although there has been a staggering number of studies of drug therapies for alcoholics, there have been surprisingly few controlled investigations that have included an adequate outcome measure of

drinking behavior. Follow-up periods have commonly been restricted to those typical of short-term drug trials, brief periods inadequate for evaluating long-range impact on drinking. Dropouts from pharmacotherapy studies (50% is not uncommon) as well as noncompliance with dosage regimens have also posed major problems for interpretation of findings.

Antidipsotropics

Antidipsotropics represent a class of drugs that are prescribed with the intention of creating an adverse physical reaction when the individual consumes alcohol. Three agents of this type have been studied: disulfiram, citrated calcium carbimide, and metronidazole.

Disulfiram. Disulfiram (trade name: Antabuse) is, by far, the most popular American pharmacotherapy for alcoholism. A client taking an adequate dose of disulfiram develops an extremely unpleasant physical reaction upon ingesting alcohol. Although hundreds of articles and commentaries have been published on this drug, we found fewer than a dozen controlled studies.

The earliest of these was an extensive study by Wallerstein *et al.* (1957), who reported 53% of alcoholics treated by disulfiram to be improved, as compared with 24%, 36%, and 26% in comparison groups. In light of apparent deviations from random assignment, however, we question the interpretability of these results (W. R. Miller & Hester, 1980). Reinert (1958) reported superiority for disulfiram over reserpine, but the absence of placebo or unmedicated controls, combined with a 44% attrition rate at follow-up, renders these results difficult to interpret. Gallant, Bishop, Faulkner *et al.* (1968) reported no advantage for disulfiram over no treatment, but this study likewise was plagued by a massive attrition rate.

An interesting experiment by Yalovoi (reported by Mottin, 1973) compared two groups comprising 300 male alcoholics. The control group received disulfiram, including a "challenge" procedure in which the client was forced to consume alcohol in order to experience the adverse reaction that would ensue. A comparison group for whom disulfiram was medically contraindicated (therefore not randomly assigned) received a parallel "challenge" experience of nausea induced by the emetic drug, emetine. No significant differences were observed between the groups during 3 years of follow-up.

In an attempt to sort out the specific effects of disulfiram from those of motivation and therapeutic attention, Gerrein, Rosenberg, & Manohar (1973) randomly assigned outpatient alcoholics, who were willing to take part in their experiment. The patients came to an outpatient clinic either once or twice weekly. Some patients received disulfiram whilst

others did not receive the drug. Eight-week follow-up data pointed to superiority of the group visiting twice weekly and receiving disulfiram. Unfortunately, the follow-up was not extended beyond this brief period. The latter problem was remedied in a study by Fuller and Roth (1979) in which 128 alcoholic patients were randomly assigned to receive a therapeutic dose of disulfiram, an inactive dose (1 mg.), or no medication. At one year, no significant differences were observed in abstinence, drinking days, appointments kept, family stability, or employment. The investigators did note, however, that both groups receiving the drug (even if an inactive dose) showed a higher abstinence rate (23%) than did those given no pill (12%), suggesting a placebo effect in being told that one is taking the drug. Using a life-table method to reanalyze their data, Fuller and Williford (1980) reported statistical significance of this difference, whereas the previous analyses had yielded only a nonsignificant trend. It must be recalled, however, that the *placebo* group in this study (inactive dose) achieved the highest abstinence rate at 12 months, indicating that the therapeutic effect is not attributable to a specific pharmacological action of the drug. This study is a valuable contribution to the literature, because it helps to untangle specific from nonspecific effects that were confounded in much-cited earlier studies, such as Hoff and McKeown (1953) where "experimental" patients who were willing to take the drug were found to fare better than "controls" (not randomly assigned) who refused the drug or for whom it was contraindicated.

Another well-controlled study by Azrin, Sisson, Meyers, and Godley (1982) suggests that the effectiveness of disulfiram may be augmented by an intervention to increase medication compliance. At 6-month follow-up, two groups that received a behavioral compliance program to encourage the taking of disulfiram showed superior outcome (less drinking, intoxication, unemployment, institutionalization) than a group receiving a typical alcoholism treatment regimen (disulfiram, education and films, individual counseling) but no compliance intervention.

An alternative method for administering disulfiram is to implant it, thus eliminating problems in compliance with daily oral dosage. Hussain and Harinath (1972) reported, in a brief letter, that 91% of implant cases sustained abstinence whereas 52% of "controls" had relapsed within 2 months. There was no indication of random assignment, however, and the placebo effects of surgery are potentially large. Whyte and O'Brien (1974) reported a similar study in which post hoc matching was used in an attempt to assemble a comparable control group, again reporting superior duration of abstinence for implant patients.

Wilson and his colleagues have conducted a well controlled series of

studies to evaluate the placebo component of disulfiram implantation. In their initial investigation (Wilson, Davidson, & White, 1976), 20 chronic alcoholics received either disulfiram implant or sham surgery. Although the number of abstainers at follow-up did not differ substantially (5 versus 4), the disulfiram patients who drank had waited significantly longer before relapsing, and were more likely to abstain again following the initial episode. Both groups showed substantial increases in abstinence relative to the 2 years prior to surgery. Reporting 2-year follow-up data for these patients, Wilson, Davidson, Blanchard, and White (1978) found a sustained advantage for the implant group over the placebo surgery group. Nevertheless, the placebo effect (sham surgery vs. no surgery) was substantially larger than the drug effect (implant vs. sham surgery): Wilson (1979) reported a mean of 367 and 307 days of abstinence in disulfiram implant and placebo groups, respectively, as compared with a mean of 27 abstinent days in an unoperated comparison group.

In summary, the most striking differences in controlled evaluations are those between alcoholics receiving no medication and those given a "drug" they believe to be disulfiram (even if it is a placebo). Current findings point to small differences between disulfiram and placebo, typically at marginal levels of statistical significance. Thus it appears that the therapeutic effects of disulfiram (beyond those attributable to population characteristics, such as motivation) derive from a substantial placebo effect combined with a modest (at best) specific effect. Given the known side-effects of disulfiram and current indications of potential deleterious health effects of this drug (e.g., Burnett & Reading, 1970; Goyer & Major, 1979; Kwentus & Major, 1979; Lake, Major, Ziegler, & Kopin, 1977; Lijinski, 1979; Van Thiel, Gavaler, Paul, & Smith, 1979) we question the wisdom of its use as a routine therapeutic agent. We particularly question the ethics and effectiveness of the rather common practice of mandating disulfiram as a consequence of alcohol-related offenses.

Citrated Calcium Carbimide. An alternative antidipsotropic agent is citrated calcium carbimide (CCC). Like disulfiram it produces an aversive reaction in combination with alcohol. In comparison with the disulfiram-ethanol reaction, its effect apparently occurs sooner after ingestion, is less severe, and is shorter lived. Likewise, the unpleasant side effects appear to be less severe and prolonged than those of disulfiram, increasing the likelihood of compliance, and the health risks that ensue if drinking occurs are less extreme (for review see W. R. Miller & Hester, 1980). Marketed under the trade names of *Temposil* and *Abstem* in Canada and Britain, CCC is not currently approved for use in the United States. Levy, Livingstone, and Collins (1967) reported a 37% abstinence rate at 9 to 14 months in a group treated with CCC, contrasted with no

abstainers in a comparison group given disulfiram. No adequately controlled evaluations of CCC have been published to date.

Metronidazole. The story of metronidazole (trade name: Flagyl) is an instructive chapter in the history of alcoholism treatment. Metronidazole is a drug useful in the treatment of urinary and vaginal infections. Early reports that it produced a taste aversion to alcohol (e.g., Taylor, 1964) generated substantial enthusiasm for and interest in this drug as a pharmacotherapeutic agent for alcoholics.

The evidence from controlled evaluations, however, has been consistently negative. Merry and Whitehead (1968) found that the addition of metronidazole to a standard hospital program resulted in no significant improvement in the maintenance of abstinence during the 30 days of the trial. Egan and Goetz (1968) found identical outcomes for metronidazole versus placebo treatments in a double-blind 6-month clinical trial. Gallant, Bishop, Camp, and Tisdale (1968) found that neither metronidazole nor chlordiazepoxide yielded a significant improvement over routine group therapy. Tyndel, Fraser, and Hartleib (1969) found no evidence of decreased desire for or consumption of alcohol in metronidazole versus placebo groups in a double-blind design. Penick, Carrier, and Sheldon (1969), in another double-blind study, found a higher rate of improvement (abstinent with only an occasional drink) in placebo (64%) than in drug-treated patients (42%) at 6 months. The same direction of findings persisted at 4 year follow-up (Penick, Sheldon, Templer, & Carrier, 1971). The absence of any therapeutic effect from metronidazole has also been confirmed in other controlled evaluations (Lal, 1969: Lowenstam, 1969; Lysloff, 1972: Platz, Panepinto, Kissin, & Charnoff, 1970). The single exception to this pattern is a positive double-blind evaluation conducted by Swinson (1971), who found no differences between drug and placebo groups until the 12-month follow-up, at which point more drug-treated (9/18) than placebo-treated (1/13) patients were classified as improved.

The history of metronidazole treatment contains the important lesson that one cannot rely on optimistic uncontrolled reports of effectiveness, and that a consistent pattern of findings from adequately controlled research may well differ from the findings of a single study and from anecdotal reports and clinical impressions. The overwhelming weight of findings here indicates that metronidazole produces no significant reduction in drinking behavior, and after two decades this drug has fallen into justifiable disuse as a treatment for alcoholism.

Psychotropics

The rationale for using psychotropic medications is that by treating underlying psychopathology that is presumably causing the excessive drinking, the alcohol abuse will be eliminated. The following review is organized according to the type of underlying pathology targeted by these medications.

Antianxiety Drugs. An early study by Hoff (1961) reported a combined improvement (abstinent, one slip, or better control) rate of 72% for alcoholics receiving chlordiazepoxide (trade name: Librium) versus 52% for matched controls over 3 to 12 months of follow-up. Subsequent studies, however, have failed to find significant differences between chlordiazepoxide and comparison groups on either drinking measures or psychosocial functioning (Bartholomew & Guile, 1961; Charnoff, Kissin, & Reed, 1963; Mooney, Ditman, & Cohen, 1961; C. M. Rosenberg, 1974; Shaffer, Freinek, Wolf, Foxwell, & Kurland, 1963). Overall, controlled research provides no persuasive support for using antianxiety agents with alcoholics, and many physicians caution against their use because of the risks of multiple abuse of alcohol and medication.

Antipsychotics. Drugs intended for the treatment of psychoses have also been tried with nonpsychotic alcoholics. Butterworth and Watts (1974) evaluated the effectiveness of thiothixene, trifluoperazine, and placebo by using global rating scales of adjustment in alcoholics. Over the 3 weeks of the study no differential improvement was noted among these groups. Turek, Ota, Brown, Massari, and Kurland (1973) similarly found no differential advantage among these same two drugs and placebo.

Once again, although early anecdotal and uncontrolled reports were quite optimistic (e.g., Fox & Smith, 1959), no evidence has emerged from controlled research to indicate that these medications are of value in treating alcoholism itself.

Antidepressants. Shaffer, Freinek, Wolf, Foxwell, and Kurland (1964) reported a double-blind study of nialamide (an MAO inhibitor) versus a placebo. During the 28 days of inpatient treatment no differences were observed on "incidence of sobriety lapse." Butterworth (1971) reported combined improvement rates of 79% versus 40% for clients receiving imipramine versus a placebo, respectively, based on a global rating scale, but follow-up was restricted to 3 weeks and the criteria used to define "improvement" are unclear.

Kissin and Gross (1968) compared the combined effects of chlordiazepoxide and imipramine with those of either drug alone or placebo. At 6-month follow-up they reported reduced-drinking rates of 28%, 19%, 0%, and 13% with the combination, chlordiazepoxide, imipramine,

and placebo groups, respectively. In a subsequent study Kissin, Platz, and Su (1970) compared this drug combination to controls receiving only inpatient ward treatment, psychotherapy, or no treatment. Success rates after an unspecified length of follow-up were 21%, 15%, 36%, and 5%, respectively.

A number of other studies have investigated the effects of antidepressant medications on depression among alcoholics, often finding modestly superior symptom reduction in drug-treated groups (e.g., Baekeland & Lundwall, 1975; Shaw, Donley, Morgan, & Robinson, 1975). Unfortunately, such studies have typically been restricted to brief periods of follow-up and often have included no measure of impact on drinking behavior.

At the present time, findings are equivocal regarding the effect of antidepressant medications on drinking behavior, although there may be beneficial effects of certain medications on mood. Further research is needed, and it would be particularly sensible to examine the differential effectiveness of antidepressants with alcoholics who are clinically depressed versus nondepressed. Various investigators are now exploring whether antidepressants affect desire for or effects of alcohol in animals and humans. At the present time it seems appropriate to consider the use of antidepressant medications as one alternative for treating mood disorders that persist with sobriety, but it would be ill-advised to rely on these drugs as primary agents to bring about sobriety.

Lithium. Some of the best-controlled investigations of pharmacotherapy for alcoholism have been with lithium carbonate. Studies examining measures of depression in alcoholics have found no differences between those given lithium or placebo (Kline, 1974; Merry, Reynolds, Bailey, & Coppen, 1976; Pond *et al.*, 1981). When drinking behavior is examined, however, a different picture has sometimes emerged. Kline *et al.* (1974) reported that alcoholics receiving lithium had fewer drinking episodes and relapses as compared with a placebo control group. Merry *et al.* (1976) similarly found that depressed subjects receiving lithium showed significantly fewer days of incapacitation from drinking than did those given a placebo. Pond *et al.* (1981), by contrast, found no significant differences in weekly alcohol consumption during lithium versus placebo weeks using a within-subjects crossover design. Like other pharmacotherapy studies, these have been compromised by high drop-out rates.

McMillan (1981) has suggested that lithium may influence drinking behavior by reducing alcohol's euphoric effects. With the controlled studies numbering two positive and one negative, further research is needed to clarify whether lithium has a specific or differential effect on alcohol consumption of problem drinkers. As with antidepressants, re-

liance on lithium as a primary agent for modifying drinking behavior cannot be recommended at present.

Summary. No psychotropic medication has yet been shown to produce reliable changes in drinking behavior. Where psychopathology persists, particularly after initial sobriety has been achieved, a carefully chosen medication may be appropriate for treating these concurrent problems. There is very tentative evidence that certain antidepressants and lithium may reduce desire for and consumption of alcohol, but neither the magnitude of this effect nor the volume of research to date can substantiate lithium as a primary therapeutic agent for alcoholism.

Hallucinogens

During the 1960s and early 1970s, the use of lysergic acid diethylamide (LSD) as an alcoholism treatment enjoyed a rapid rise in popularity, followed by an equally precipitous decline. The rationale was that alcoholics would have a psychedelic experience or would undergo an altered state of consciousness that would render them more amenable to personality change. Early uncontrolled studies enthusiastically reported positive results, with abstinence rates ranging as high as 94% (Chwelos, Blewett, Smith, & Hoffer, 1959).

As controlled studies began to appear, however, a different picture emerged regarding the effectiveness of LSD therapy for alcoholics. With two exceptions, controlled evaluations found no differential or additive advantage for LSD in treating alcoholism (Bowen, Soskin, & Chotlos, 1970: Denson & Sydiaha, 1970; Hollister, Shelton, & Krieger, 1969; Johnson, 1970; Ludwig, Levine, Stark, & Lazar, 1969; Ludwig, Levine, & Stark, 1970; Smart, Storm, Baker, & Solursh, 1966). Both of the studies finding an advantage for LSD treatment (Jensen & Ramsay, 1963; Tomsovic & Edwards, 1970) suffered high attrition rates at follow-up. Of the two, the Tomsovic and Edwards study is better designed, having employed random assignment, a large sample, and follow-up to 12 months. Although the LSD-treated group in this study did show a higher abstinence rate (44%) than the control group volunteering for but not receiving LSD (11%), the experimental group did not differ in outcome from another group not volunteering for LSD.

Here, at least, the weight of negative findings appears to have influenced practice, and by the early 1970s the use of LSD in alcoholism treatment had all but disappeared. Indeed, with the exception of a 6-year follow-up of an uncontrolled study (Rydzynski & Gruszczynski, 1980), there have been no subsequent reports on this approach.

Psychotherapy and Counseling

Various types of counseling and psychotherapy have been proposed as appropriate for alcoholics, and uncontrolled evaluations of such interventions yield a wide ranging mixture of outcomes (W. R. Miller & Hester, 1980). As in other sections of this chapter, we will confine our discussion to controlled and comparative studies that yield information about the absolute and relative effectiveness of these approaches in reducing drinking behavior and alcohol-related problems.

One type of design has assigned patients either to receive or not receive counseling or psychotherapy in addition to a regular inpatient ward regimen. Levinson and Sereny (1969) sequentially assigned alcoholics to receive or not receive insight therapy (including individual and group therapy and educational sessions). At one-year follow-up, contrary to predictions, no significant differences were found between groups on measures of drinking, work status, psychological health, or social adjustment. The control group, who received only occupational and recreational therapy in an inpatient milieu, showed a somewhat higher rate of improvement (33%) than the therapy-treated group (15%), based on personal interviews. Working with "chronic character disorders" (not restricted to alcoholics), Pattison, Brissenden, and Wohl (1967) randomly assigned inpatients to receive or not receive psychoanalytic group psychotherapy. The only significant difference found on a broad range of outcome measures favored the control group, who showed higher self-acceptance. Tomsovic (1970) studied the outcome for alcoholic patients before and after the introduction of a new program procedure, an intensive counseling conference session in which the patient met with staff to discuss problems. Contrary to expectations, those receiving the counseling fared significantly worse. Finally, Bjornevoll (1972) assigned 46 alcoholics to receive or not receive intensive encounter group therapy. Although nearly every patient in the encounter groups rated them as helpful and indicated they would recommend them to other patients, no differences were found (contrary to predictions) at 6- to 7-month follow-up on measures of drinking status, with a trend toward more abstainers in the control group. In sum, studies that have examined the value of adding psychotherapy to an inpatient milieu have found either no differences or, contrary to the expectations of the investigators, trends favoring patients who did not receive additional psychotherapy.

Another type of design has been used to study psychotherapy or counseling in relation to more minimal interventions, usually on an outpatient basis. Ogborne and Wilmot (1979) randomly assigned 40 Skid Row alcoholics to receive or not receive outpatient counseling sessions

to discuss their drinking problems. Only 10 of the 20 assigned to counseling remained in contact for the 6 months of intervention, and these were matched with 10 controls. No significant differences were observed during or 3 months after intervention, based on personal interviews and examination of records. Bruun (1963) assigned alcoholics randomly to an intensive psychotherapy group plus disulfiram (32 visits) or to disulfiram alone (10 clinic visits), and found no differences in drinking, social, or psychological functioning between the two groups at follow-ups ranging from 2 to 3.5 years. Zimberg (1974) contrasted a comprehensive outpatient treatment program including group and individual psychotherapy and medication (50 visits) with a minimal treatment condition consisting of medication and brief supportive counseling by an internist (24 visits). At 12 months, 40% of the "comprehensive" group and 44% of the "minimal" group showed few or no symptoms of alcoholism, and the latter group showed significantly more improvement on 5 of 7 scales of emotional adjustment. Crumbaugh and Carr (1979) randomly assigned inpatients to receive either or neither of two forms of logotherapy (8 hr/week) and found no significant overall differences at the end of treatment (measures restricted to subjective purpose in life—no measures of drinking). Mindlin (1965) failed to find any difference in sobriety and attitude change between alcoholics receiving group therapy and those assigned to educational lectures. Thus in outpatient settings, as in inpatient settings, controlled evaluations have failed to demonstrate benefit from adding psychotherapy or counseling to more minimal interventions.

Several studies have provided slightly more encouraging results. Kissin *et al.* (1970) compared outpatient psychodynamic group psychotherapy or psychotropic medication versus inpatient rehabilitation on a ward where group therapy was the primary intervention. No differences in effectiveness were found among groups (thus failing to support psychotherapy over medication), but all treated groups did fare better than a randomly assigned group of untreated controls. Brandsma, Maultsby, and Welsh (1980) randomly assigned alcohol-related offenders to insight therapy, cognitive-behavior therapy, Alcoholics Anonymous, or a no-treatment control. Although at early follow-ups all treated groups combined showed more improvement than controls, by 12 months the only remaining significant difference indicated fewer days of drinking among insight and cognitive therapy groups relative to controls, with no other differences on a wide range of measures. These two studies suggest that psychotherapy may yield modest short-term gains relative to no treatment at all, at least within certain alcoholic populations.

Other studies have compared different approaches to psychotherapy. Ends and Page (1957) contrasted client-centered and psycho-

analytic groups with a group involving discussion of learning principles and with a control discussion group. At one to one and a half year blind follow-up, the groups showed 53%, 40%, 13%, and 24% improvement, respectively (abstinent or only 1 to 2 slips). Tomsovic (1976) found slightly more improvement in self-concept among inpatients treated in a closed encounter group as compared with those treated in an open-membership group, but no drinking measures were reported. Wallerstein *et al.* (1957) found less improvement among patients treated with group milieu therapy than among those given disulfiram or hypnotherapy. Pomerleau, Pertschuk, Adkins, and d'Aquili (1978) randomly assigned problem drinkers to either insight-oriented or behaviorally oriented therapy groups. Dropouts were significantly greater from the insight group (43%) than from the behavioral group (11%), but among completers the differences (which favored the behavioral group) fell short of statistical significance. McCance and McCance (1969) and P. M. Miller, Hersen, Eisler, and Hemphill (1973) failed to find differences in effectiveness between group therapies and electrical aversive counterconditioning. The absence of untreated controls in these studies makes it impossible to judge whether any of the treatments offered would have exceeded the efficacy of no intervention.

Viewing the controlled and comparative studies as a whole, we are struck by the absence of consistent and substantive support for the efficacy of traditional psychotherapy and counseling approaches as evaluated to date. The majority of studies have found no differences between those receiving versus not receiving such therapy in spite of the fact that in most of the studies the investigators expected to find an advantage for the former. In several studies the existing differences have favored those not receiving additional counseling or psychotherapy. Studies reporting an advantage for therapy relative to controls have violated random assignment (Kissin *et al.*, 1970), lacked adequate outcome measures of drinking (Ends & Page, 1959), or shown minimal differences at best (Brandsma *et al.*, 1980).

Of course specification of the precise procedures involved in counseling or psychotherapy is often less than clear. This lack of clarity would be a more serious problem were it the case that some studies showed substantial success whereas others did not. In the absence of persuasive evidence for efficacy, it seems futile to pursue differentiation among relatively inert procedures. Suffice it to say that although group and individual counseling and psychotherapy have become exceedingly popular elements in the standard treatment of alcoholics, there is little or no evidence to date that such interventions have a specific long-range impact on drinking behavior.

Confrontation

Within the popular lore on treating alcoholics, there is nearly universal agreement that confrontation is a valuable if not essential element of counseling. The common belief is that alcoholics as a group tend to deny or fail to recognize the reality of their problems, and that it is therapeutic to confront them with reality.

Actual procedures for carrying out confrontation vary widely. The literature on alcoholism treatment includes many dozens of descriptions of how to carry out confrontation. The usual procedures include a forceful and factual presentation of evidence that the individual "has alcoholism," refutation of the client's protestations to the contrary, and application of any available leverage or contingencies to persuade or coerce the individual into treatment.

In our research of the literature, we found not a single adequately controlled evaluation of confrontational counseling with alcoholics. This lack of evaluative research is disturbing, given the current ubiquity of confrontational approaches in alcoholism treatment. In a comparative study, MacDonough (1976) found, contrary to expectations, that two of four alcoholics treated in a token economy ward showed improvement in undesirable behavior, whereas of five alcoholics treated by an intensive confrontation approach, none showed improvement. The general literature on group therapy is no more encouraging regarding the effectiveness of a confrontational approach. Lieberman, Yalom, and Miles (1973), for example, reported that a hostile-confrontational style of group leadership was associated with more *negative* outcomes than other leader styles. Likewise, research on motivation for change does not support an exhortatory or argumentative style as optimal for inspiring behavior change (W. R. Miller, 1983).

Yet confrontation need not be equated with strategies of coercion and extrinsic control. An alternative is a feedback model in which the client is given information about his or her current health status (W. R. Miller, 1985). Exemplary research has emerged from a Swedish team headed by Hans Kristenson (Kristenson, 1983; Kristenson, Ohlin, Hulten-Nosslin, Trell, & Hood, 1983). Individuals at risk for alcohol problems were identified via elevated liver enzyme values on routine physical examinations. Patients with at-risk values were then randomized, and those assigned to an experimental condition were given feedback of their test results, information about the meaning of such enzyme elevations, and simple advice to reduce alcohol consumption. Those given feedback and advice were found, at follow-ups ranging to 5 years, to have substantially lower mortality, illness, hospitalization, and work-absence rates relative to control subjects.

One form of feedback that has received experimental attention is videotape self-confrontation (VSC). The typical procedure has been to videotape the client during a period of intoxication (either upon admission or following a period of supervised drinking), then to have the client view the tape on a subsequent day while sober. Clinical reports indicate that this procedure is quite stressful for alcoholics, yielding depression, decreased self-esteem, and anxiety. The impact of this procedure on drinking behavior has been evaluated in several studies. One common result is a high rate of relapse shortly after the treatment (Faia & Shean, 1976; Feinstein & Tamerin, 1972), sometimes higher than that of clinical controls (Schaefer, Sobell, & Mills, 1971). Schaefer *et al.* (1971) likewise reported a differentially higher dropout rate among patients exposed to VSC (56%) than among comparable patients assigned at random to standard treatment without VSC (10%). Controlled comparisons of patients given versus not given VSC have indicated little or no beneficial impact on drinking behavior. Baker, Udin, and Vogler (1975) found a modest advantage at 6 weeks for clients receiving VSC plus behavioral counseling (80% abstinent or controlled) versus those receiving only counseling (73%), but this difference had disappeared by 6 months. Faia and Shean (1976) found no significant differences in results for a hospital program with or without a VSC component. Schaefer *et al.* (1971) and Shaefer, Sobell, and Sobell (1972) also observed no significant differences in sobriety of inpatients receiving versus not receiving VSC. Finally, Lanyon, Primo, Terrell, and Wener (1972) found no benefit from a VSC intervention versus a comparison discussion group, although the addition of systematic desensitization to VSC did yield more encouraging results.

Taken together, these studies indicate that confrontational interventions are not inert. Kristenson's findings in particular suggest that a minimal feedback procedure can have a substantial impact on behavior and health. At the same time, confrontational approaches must be undertaken with care because of the potential for precipitating dropout, negative emotional states, lowered self-esteem, and proximal relapse. It seems likely that feedback interventions may be of value in prevention and treatment programs, but the optimal approaches and safeguards remain to be delineated.

Alcoholics Anonymous

In spite of the fact that it inspires nearly universal acclaim and enthusiasm among alcoholism treatment personnel in the United States, Alcoholics Anonymous (A.A.) wholly lacks experimental support for its efficacy. A number of studies have reported positive correlations be-

tween A.A. attendance and abstinence (W. R. Miller & Hester, 1980), but these studies have failed to control for multiple confounding variables and yield results that are virtually uninterpretable (Bebbington, 1976). Only two studies have employed random assignment and adequate controls to compare the efficacy of A.A. versus no intervention or alternative interventions. Brandsma *et al.* (1980) found no differences at 12-month follow-up between A.A. and no treatment, and at 3-month follow-up those assigned to A.A. were found to be significantly *more* likely to be binge drinking, relative to controls or those assigned to other interventions (based on unverified self-reports). Ditman and Crawford (1966) assigned court mandated "alcohol addicts" to A.A., clinic treatment, or no treatment (probation only). Based on records of rearrest, 31% of A.A. clients and 32% of clinic-treated clients were judged successful, as compared with 44% successes in the untreated group (Ditman, Crawford, Forgy, Moskowitz, & MacAndrew, 1967).

Other studies have evaluated multidimensional programs in which A.A. was one component. Edwards *et al.* (1977), for example, found that a complex treatment program (including A.A., medication, outpatient, and inpatient care) was no more effective in modifying alcohol consumption and problems at 12-month follow-up than was a single session of counseling consisting of feedback and advice.

To be sure, these studies (like most any research) can be criticized for methodological weaknesses, and as always "further research is needed." Given the absence of a single controlled evaluation supporting the effectiveness of A.A. and the presence of these negative findings, however, we must conclude that at the present time the alleged effectiveness of A.A. remains unproved.

Alcoholism Education

One additional element that has come to be common in American alcoholism treatment centers is an educational component, usually consisting of a series of lectures, films, readings, or discussions on the topic of alcohol and alcoholism. Typical content includes the negative effects of alcohol on health and behavior, combined with a disease model of the etiology and treatment of alcohol problems. Such intervention proceeds from the assumption that alcoholics are uninformed about alcohol and their problems with it, and require education. Here there is a parallel between "treatment" and "prevention" research, with the distinction residing in the level of current problem development among those being educated. We will focus on controlled evaluations of education programs for individuals already evidencing problem drinking.

Studies employing random assignment of subjects have been few,

and have failed to support the efficacy of education as a treatment intervention. Scoles and Fine (1977), using a Solomon four-group design, found that drinking drivers assigned at random to an education program on the hazards of drinking and driving were no more improved on measures of alcohol consumption and impairment than a control group receiving assessment only. Swenson and Clay (1980) similarly found no differential gains in a group of offenders assigned at random to 10 to 15 hours of education, as compared with controls given a minimal intervention (home study course), with most subjects reporting more drinking at posttest.

Studies not using random assignment have yielded mixed results. At least two studies (Hagen, Williams, McConnell, & Fleming, 1978; Salzberg & Klingberg, 1983) have found *higher* rates of repeat offenses among offenders sent to education and treatment programs than among those given standard legal sanctions. One possible mechanism for such a paradoxical outcome is a desensitizing effect, such that a group education program may diminish the deterrent impact of arrest and penalties. Malfetti (1975), by contrast, reported significantly fewer subsequent offenses among 500 drunken drivers attending an education class, versus 500 controls. McGuire (1978) reported that 1,000 participants in an education program showed 78% fewer repeat offenses, 34% fewer accidents, and 23% fewer moving violations compared to 1,000 control subjects given only probation and fine. However, the assignment of offenders to conditions in all of these studies was not only nonrandom, but systematically biased so that groups were nonequivalent before intervention. The findings may therefore be attributable to sample differences.

Least evaluated has been the value of alcohol education within the context of an alcoholism treatment program. The only comparative evaluation to date contrasted three alternative modalities for education, but lacked a no-education control group (Stalonas, Keane, & Foy, 1979). The investigators found that patients watching presentations on videotape showed significantly greater gain in knowledge than did patients attending live lectures or reading written presentations of the same material. All groups, however, showed return to baseline levels of knowledge at follow-up. Furthermore, it is questionable whether changes in knowledge or attitudes about alcohol can be expected to generalize to behavior change (Uecker & Boutilier, 1976).

Although uncontrolled studies have sometimes found gains in groups receiving alcohol education, the full body of such research suggests that detrimental effects are at least as likely to occur (cf. review by Kinder, Pape, & Walfish, 1980). Controlled studies employing random assignment have failed to support the efficacy of alcohol education in

changing drinking behavior and problems. Future research should help to clarify what kinds and content of education programs, if any, might be effective in alleviating problem drinking. In the meantime, we are inclined to agree with the assessment of Uecker and Solberg (1973), made more than a decade ago:

> Until it has been clearly demonstrated that alcohol education is effective and essential in the . . . treatment of alcoholics, this form of treatment should probably be deemphasized in favor of methods that have a sounder basis in research. (pp. 512–513)

Marital and Family Therapy

Recognizing that alcohol problems both influence and are influenced by the family, therapists and programs have increasingly included the spouse and other family members in the treatment process. A few controlled evaluations have been published to date, with mostly encouraging results.

In an early quasi-experimental study, Corder, Corder, and Laidlaw (1972) provided an intensive 4-day marital therapy workshop to 20 male alcoholics and their wives following a 3-week inpatient program. A comparison group was constituted of 20 alcoholics treated in the same inpatient program during the prior month. At 6-month follow-up, 85% of the comparison group had relapsed, but in the group receiving marital therapy in addition to inpatient treatment only 42% had relapsed.

In a more carefully controlled study, Cadogan (1973) assigned 40 alcoholics following inpatient treatment to either an outpatient marital therapy group or a waiting list control group. At 6-month follow-up, 45% of those receiving marital therapy were abstinent, whereas only 10% had remained abstinent in the control group.

Hedberg and Campbell (1974) permitted clients to choose either abstinence or controlled drinking as a goal, then randomly assigned them to one of four treatment conditions: behavioral family therapy, electrical aversion, systematic desensitization, and covert sensitization. Combining as "successful" all cases rated as abstinent, controlled, or improved at 6 months, 87% of cases treated by family therapy showed successful outcomes, as contrasted with 87% in desensitization, 67% in covert sensitization, and 25% in aversion therapy. The family therapy group yielded the highest rate (53%) of total abstainers.

A very thorough study with longer follow-up was contributed by McCrady and her colleagues (1979), comparing joint inpatient admission of alcoholic and spouse, outpatient involvement of spouse, and no spouse involvement. At 6-month follow-up, patients in both groups with spouse involvement showed significant decreases in drinking,

whereas those treated individually without spouse involvement showed no change—clearly arguing for including the spouse in treatment. Interestingly, spouses who were admitted jointly with the alcoholics also showed significant reduction in their own alcohol consumption at follow-up, whereas spouses attending therapy sessions but not admitted failed to show such change. Improvement in marital adjustment was approximately equal across groups. By 4-year follow-up (McCrady, Moreau, Paolino, Longabough, & Rossi, 1982), however, differences between the groups had disappeared, suggesting that marital therapy has an important short-term impact but not necessarily an enduring advantage over individual treatment.

In a similarly well-designed study, O'Farrell and his colleagues (O'Farrell & Cutter, 1982; O'Farrell, Cutter & Floyd, 1984) contrasted two styles of couples groups (behavioral versus interactional) with individual outpatient alcoholism counseling. Assignment to groups was random, and follow-up extended for 18 months. In immediate gains (change from pretreatment to posttreatment), the behavioral marital therapy group showed significantly more improvement in marital adjustment than the other two groups. Differences were less striking on drinking measures, however, and by the 18-month follow-up most differences between the groups had disappeared.

All of these studies indicate that marital or family therapy (at least the types studied) when added to other treatment increases the level of improvement observed at short-term follow-up (6 months). The absence of enduring differences at later points appears to be due in part to gradual improvement of the comparison groups and in part to erosion of gains following marital therapy. The consistency of positive findings at short follow-up certainly warrants further investigation, and indicates that marital therapy is a worthwhile modality to consider for inclusion in alcoholism treatment.

Aversion Therapies

The aversion therapies have as their common goal the altering of an individual's attraction for alcohol. Through counterconditioning procedures, alcohol is paired with any of a variety of unpleasant experiences. If the conditioning is successful, the individual shows an automatic negative response when later exposed to alcohol alone. Aversion therapies must not be confused with antidipsotropic medication, in which the intended effects rest not on conditioning by repeated aversive pairings but rather on suppression of drinking by *fear* of immediate aversive consequences.

The aversion therapies differ from each other in the kind of unpleas-

ant event with which alcohol is associated. We will consider four types: nausea, apnea, electric shock, and imagery (including hypnosis).

Nausea. The oldest form of aversion therapy pairs alcohol with the experience of nausea. In this type of treatment nausea is induced—usually by chemical means—while the individual drinks favorite alcohol beverages. Apomorphine, emetine hydrochloride, and lithium hydrochloride have all been used to induce nausea and vomiting in this type of treatment. Although there are a number of uncontrolled reports with long follow-ups reporting excellent results (averaging around 60% abstinent at 1 year), controlled evaluations have been few. The previously mentioned study by Wallerstein *et al.* (1957) included an emetine-conditioning modality that yielded a success rate comparable to that of milieu therapy, but less favorable than hypnotherapy or disulfiram treatment. Selection problems and high attrition at follow-up cloud these results, however. Jackson and Smith (1978) reported abstinence rates of 57% and 55%, respectively, for emetine versus electrical aversion therapy, but again assignment was not random and follow-up rate was low. Random assignment was employed in a study by Cannon, Baker, and Wehl (1981) comparing emetine conditioning, electrical aversion, and routine inpatient treatment. At 12 months no differences were found between the emetine group and control subjects (309 versus 304 days of abstinence), although both fared substantially better than those receiving electrical aversion (188 days of abstinence).

Boland, Mellor, and Revusky (1978) have provided the only controlled evaluation to date of chemical aversion therapy using lithium as the aversive agent. At 6-month follow-up, 36% of patients in aversion therapy reported total abstinence, as compared with 12% in a comparison group receiving citrated calcium carbimide (CCC). The absence of an unmedicated control group renders the results difficult to interpret on an absolute scale.

Finally, Richard (1983) published the first controlled evaluation of aversive counterconditioning based on nausea induced by motion sickness. In a series of four well-designed studies, he found no support for the superiority of this approach over control conditions at follow-ups as long as 24 months.

Apnea. A terrifying type of aversion was practiced briefly on an experimental basis during the 1960s. The aversive stimulus was an injection of succinylcholine, which induces total paralysis of movement and breathing for an interval of about 60 seconds. During this interval, alcohol is placed on the lips of the paralyzed patient. Initial uncontrolled studies provided glowing reports of effectiveness, but two controlled evaluations yielded less optimistic findings. Clancy, Vanderhoof, and Campbell (1967) compared apneic aversion with two controls: one receiving a saline injection, and another receiving standard hospital treat-

ment (given to all groups). At 12-month follow-up the apnea group failed to show greater improvement than that observed in the saline placebo condition. Laverty (1966) contrasted apneic aversion, a placebo condition, and a group with apnea induced only after alcohol administration had been completed. Because of the absence of immediate pairing, the latter group theoretically should not show conditioning or improvement. In fact both groups with induced apnea showed superior outcome (defined by abstinence) relative to the placebo. The severe nature of this treatment quickly discouraged its application in any but experimental settings, and no new evaluations have appeared.

Electrical Aversion. The arduousness of chemical aversion and difficulties in controlling its severity and onset led to the exploration, beginning in the late 1960s, of electric shock as an aversive agent in treating alcoholism. Electrical aversion has been used as a component in programs with goals of either abstinence or controlled drinking. Results have been quite mixed. Vogler, Lunde, and Martin (1971) reported that subjects receiving electrical aversion in addition to hospital treatment fared significantly better (time to rehospitalization, number of readmissions, time in hospital) than did ward controls, but noted that similar improvement was shown by a group receiving noncontingent electrical stimulation (which theoretically should not work). Lunde, Johnson, and Martin (1970) similarly noted that patients receiving electrical aversion took significantly longer to relapse, but by 8 months the number of relapses was comparable to that in a control condition. Glover and McCue (1977) reported superior improvement rates at 13 months for subjects receiving versus not receiving electrical aversion (64% versus 33%). Blake (1967) found that the 12-month improvement rate with electrical aversion (50%) could be increased (59%) by the addition of relaxation training. Success was also reported by Hallam, Rachman, and Falkowski (1972), who rated 75% (6/8) of aversion subjects as successful outcomes, as compared with 40% (4/10) of controls.

An important but unpublished study by Marlatt (1973) compared alternative conditioning paradigms in electrical aversion with alcoholics. Although no differences were found in abstinence rates at 3 months, the two groups receiving paradigms that would be expected to produce conditioning (escape or avoidance) showed substantial reductions in consumption (69% and 65% reduction) as compared with modest reductions with noncontingent shock (23%) and a control group receiving only the basic ward program (42%). These findings converge with other studies of electrical aversion that suggest that this type of treatment may be more successful in reducing consumption than in inducing total abstinence (cf. W. R. Miller & Hester, 1980).

Other controlled studies have found either no differences or less improvement among alcoholics treated by electrical aversion, as com-

pared with alternative or no treatment (Cannon *et al.*, 1981; Devenyl & Sereny, 1970; Hedberg & Campbell, 1974; McCance & McCance, 1969; Regester, 1971).

Electrical aversion has also been included as a component in several multimodal programs intended to produce controlled drinking outcomes, with varying rates of success (Ewing & Rouse, 1976; Lovibond & Caddy, 1970; W. R. Miller, 1978; Sobell & Sobell, 1973; Vogler, Weissbach, & Compton, 1977; Vogler, Weissbach, Compton, & Martin, 1977). Only two studies of this type have evaluated the contribution of electrical aversion to the larger package. Caddy and Lovibond (1976) compared a group receiving electrical aversion alone, a group given self-control training alone, and a combination group. The aversion-alone group proved least effective and suffered the most dropouts. The combination group was most effective overall, but only modestly more so than the self-control training alone. W. R. Miller (1978) found comparable outcomes at 12 months for electrical aversion, self-control training, and a combination program, and noted that the aversion yielded the lowest rates of successful outcome at early follow-ups. He concluded that the beneficial effects to be derived from electrical aversion could be achieved equally by alternative and less painful procedures.

Overall the research on electrical aversion presents a confusing picture. Some studies note strong and significant effects, whereas others find none. The method of administration appears to be a crucial variable, although it is puzzling that paradigms not expected to produce conditioning nevertheless have been found to yield therapeutic effects in some studies. It appears that electrical aversion procedures have potential for supressing drinking behavior, at least over several months of follow-up, but the mechanisms for such change are unknown at present. There is reason, however, to question whether the painfulness and risk of dropout associated with this approach are warranted, given the availability of alternative methods with known efficacy in reducing alcohol consumption.

Covert Sensitization. Covert sensitization (discussed by Klinger in this volume) is a relative newcomer among the aversion therapies. It is conducted entirely in imagination, pairing aversive scenes with drinking imagery. Sensitization bears close resemblance to some treatment procedures that have been labelled "hypnosis" (W. R. Miller & Hester, 1980), and therefore these two approaches will be reviewed together.

In an early controlled study, Ashem and Donner (1968) reported that 40% (6/15) of clients treated by sensitization were abstaining at 6 months, whereas none were abstinent among an untreated control group. Maletzky (1974) found a modified sensitization procedure

yielded superior improvement when compared with outcome from a halfway house program in a random assignment design. The sensitization-treated clients reported fewer urges to drink, less drinking, and fewer drinking-related problems. Hedberg and Campbell (1974) found a 74% improvement rate among clients assigned to sensitization, which was higher than that for electrical aversion but lower than rates for family counseling or desensitization. Olson, Ganley, Devine, and Dorsey (1981) assigned blocks of alcoholics in a milieu treatment to receive a behavioral program including sensitization, or transactional analysis, or both, or neither additional modality. Rates of total abstinence were not different at any follow-up point over 4 years. The two groups receiving behavioral treatment, however, did show significantly greater reduction in drinking and better overall adjustment than either the control (neither treatment) group or the group receiving only transactional analysis.

Two comparative evaluations have failed to find sensitization to be superior to alternative interventions Fleiger and Zingle (1973) found no differences in outcome for clients receiving either sensitization or problem-solving therapy. Piorkowsky and Mann (1975) found equivalent outcomes for sensitization, desensitization, and insight therapy, but a 65% dropout rate renders these results uninterpretable.

A key to differences in outcome may lie in specification of procedures employed in administering sensitization. Strong support for this view has been provided by the exemplary work of Elkins (Elkins, 1980; Elkins & Murdock, 1977). Working with inpatient alcoholics, Elkins demonstrated that the success of covert sensitization could be predicted from the degree of conditioning established during treatment. Those showing conditioned nausea responses (verified by physiological monitoring) remained abstinent significantly longer (14.9 versus 3.7 months) than those failing to show conditioning. Among those showing conditioning, 31% sustained abstinence for periods of 5 to 62 months, whereas no subject without conditioning sustained abstinence for an extended period. These findings, then, point to conditioning as the effective mechanism in covert sensitization treatment of alcoholism, at least within a taste aversion modality.

Following Elkins' work, W. R. Miller and Dougher (1984) compared three alternative procedures for administering covert sensitization: Standard nausea scenes, nausea scenes augmented by aversive odors (Maletzky, 1974), or individualized scenes focusing on plausible negative consequences of drinking. At 2 weeks after treatment, all groups showed comparable reductions in alcohol consumption. In both of the nausea groups, reduction in drinking was associated with the establishment of a conditioned aversive response to alcohol, confirming Elkins' prior report. In the third (consequences) group, however, conditioning occurred less

frequently and was unrelated to outcome. At 18-month follow-up, the mean drinking rate had reverted to baseline in the group given standard nausea scenes, whereas the other two groups largely sustained the reductions observed immediately following treatment. These data support Elkins' finding that covert sensitization using nausea scenes does operate via the establishment of a conditioned aversion response (subject to extinction). The therapeutic effect observed with "negative consequences" scenes is more puzzling, in that the reduction in alcohol consumption was substantial and sustained, yet unrelated to conditioning.

Hypnosis. The outcome literature on hypnosis in the treatment of alcoholism is brief and readily reviewed. Two controlled studies found hypnotherapy to be superior to milieu treatment alone (Smith-Moorehouse, 1969; Wallerstein *et al.*, 1957), but both studies had substantial methodological flaws. Edwards (1966) and Jacobson and Silfverskiold (1973), by contrast, found no advantage in hypnotherapy over standard inpatient treatment or psychotherapy. The two latter studies employed random assignment and in general were more sound methodologically. Variations of procedure in "hypnosis" are quite wide, ranging from posthypnotic suggestion to induced aversion. Variations in procedure combined with the inconsistency of findings from controlled research render it impossible to judge the potential value of hypnosis in alcoholism treatment at the present time.

Summary. Research on the aversion therapies constitutes one of the largest literatures in the alcoholism treatment field. Few approaches have been more thoroughly evaluated, and important gains have been made in understanding the mechanisms of effectiveness, although there is still a long way to go. Aversive conditioning strategies appear to be effective in suppressing drinking behavior and urges to drink, at least for a period of a few months. Nausea aversion is well founded in experimental learning literature, and conditioning procedures are clearly capable of inducing a taste aversion to alcohol in both animals and humans. The availability of covert sensitization makes aversion therapy applicable to a wider range of clients, because it can be administered on an outpatient basis and is considerably less dangerous and stressful than its chemical predecessors. Reduction of consumption rather than total abstinence is a common observation following aversion therapies, and thus the success of these approaches would not be well reflected if complete abstinence were used as the criterion. Better specification of optimal procedures is needed, following the example of Elkins (1980). With continued refinement in procedure, it seems likely that aversive counterconditioning will remain a valuable modality for inclusion in alcoholism treatment programs.

Controlled Drinking

Controlled drinking is not a treatment method, but rather an outcome or a goal of treatment. For decades, studies of treatment outcome have reported that some clients maintain patterns of moderate and nonproblem drinking over extended periods of follow-up (Heather & Robertson, 1983). Even when the sole goal of treatment has been total abstention, up to one third of clients have been reported to be nonabstinent but improved (Emrick, 1974; W. R. Miller, 1983). Such "accidental" controlled drinking outcomes are not to be confused, however, with the results of studies to be reviewed here—evaluations of treatment programs intentionally designed to teach moderate and nonproblem drinking.

The first published study of this kind was a report by Australian psychologists Lovibond and Caddy (1970). Testing a complex multicomponent treatment program, they reported that 21 of 28 problem drinkers completing the program were controlled drinkers at 16 to 60-week follow-up, and that 3 others were improved. Unfortunately a high dropout rate in the control group prevented meaningful comparative analyses. A subsequent study (Caddy & Lovibond, 1976) revealed an 80% success rate (controlled or improved at 12 months) in the group receiving full treatment, as compared with 60% in a group receiving the program without its electrical aversion component, and 30% among those receiving a similar program without a self-control orientation. Assignment to conditions was random, and follow-up was conducted by interviewers blind to treatment condition.

A second series of studies was initiated at Patton State Hospital in California. Schaefer (1972) compared 13 clients receiving standard hospital treatment with 13 others given an additional treatment consisting of electrical aversion aimed at a moderation goal. He reported that at 12 months, two of the former versus seven of the latter were showing favorable outcomes. Following this pilot research, Sobell and Sobell (1973) conducted a major outcome study comparing behavioral approaches with hospital treatment alone in groups having either an abstinence or a moderation goal. Subjects selected for this study were all diagnosed as chronic gamma alcoholics. Within the controlled-drinking goal, patients receiving the behavioral treatment were reported to show superior outcome as compared with control subjects at follow-ups ranging to 3 years (Caddy, Addington, & Perkins, 1978). A major controversy regarding this study emerged in 1982 with the publication of a 10-year follow-up by another group of researchers (Pendery, Maltzman, & West, 1982). Based on an unspecified follow-up protocol, the Pendery

group reported that of the 20 patients receiving controlled drinking training, only one had succeeded in maintaining it continuously over 10 years. No data were provided regarding the control group, except for the comment that they had "fared badly." After a prolonged series of allegations and investigations, the Sobells provided a detailed rebuttal of the Pendery *et al.* report (Sobell & Sobell, 1984), and no further evidence has been forthcoming from the Pendery team. A third study from the Patton group (Baker *et al.*, 1975) found modest advantages for groups receiving moderation-oriented behavioral treatments, as compared with a randomly assigned control group.

Further evaluation of the multicomponent approach developed at Patton was pursued by Roger Vogler and his colleagues. In a study with inpatient alcoholics (Vogler, Compton, & Weissbach, 1975), those receiving the full behavioral treatment were found to show somewhat greater reduction in alcohol consumption and problems at 12 months, as compared with a control group receiving standard hospital treatment plus alcohol education. These differences fell short of statistical significance, however. Similar results were obtained in two outpatient sampes (Vogler, Weissbach, & Compton, 1977; Vogler, Weissbach, Compton, & Martin, 1977) comparing various treatment programs differing in intensity but sharing the goal of moderation. Overall percentages of successful outcome were encouraging (averaging 60% to 70%), but more extensive interventions showed only modest and nonsignificant advantages over minimal educational interventions.

A series of studies by Miller and his colleagues have explored alternative methods for teaching controlled drinking to problem drinkers. In all of these studies, individuals showing signs of severe dependence or biomedical deterioration were screened out, leaving a population of problem drinkers showing mild to moderate physical dependence symptoms. Four controlled evaluations have yielded success rates consistent with those found by Vogler's group for outpatients (W. R. Miller, 1978; W. R. Miller & Taylor, 1980; W. R. Miller, Taylor, & West, 1980; W. R. Miller, Gribskov, & Mortell, 1981). All of these studies contrasted more extensive therapist-directed interventions with less intensive self-control approaches. All found equal effectiveness, and in the latter three studies a self-directed bibliotherapy intervention based on a self-help manual (W. R. Miller & Muñoz, 1982) proved as effective as its therapist-directed counterpart. All studies employed random assignment and confirmation of self-report by collateral interviews.

Comparative evaluations from other clinics have yielded strikingly similar findings. Problem drinkers receiving behavioral self-control training show marked reduction in alcohol consumption and problems at one-year follow-up, with approximately two thirds being rated as

successful outcomes (Alden, 1978; Carpenter, Lyons, & Miller, 1985: Hedberg & Campbell, 1974; Lovibond, 1975; Pomerleau *et al.*, 1978; Sanchez-Craig, Annis, Bornet, & MacDonald, 1984). Alden found modest differences between groups receiving more versus less intensive treatment (Alden, 1978), and Sanchez-Craig *et al.* (1984) reported no differential reductions among patients assigned at random to abstinence versus moderation goals.

Another group of studies has examined the effectiveness of moderation training methods with individuals convicted of driving while intoxicated. Lovibond (1975) compared outcomes of 27 offenders trained in moderation with those of 16 matched controls. Of the former 27, 16 were rated as controlled drinkers and 7 as improved (at follow-up of 1 to 9 months). Among the 16 controls receiving only legal sanctions, just one was rated as controlled and one as improved. Two other studies have compared behavioral self-control training with traditional drinking-driver education approaches, using random assignment designs (Brown, 1980; Coghlan, 1979). Both studies found significantly greater improvement in the behaviorally treated groups.

Although these studies have yielded consistent findings, none has included an untreated control condition. In an unpublished study, Buck and Miller (1981) compared therapist-directed and self-directed behavioral training with two waiting-list control groups, one of which self-monitored alcohol consumption whereas the other did not. Assignment was random, and collaterals confirmed self-report of clients. Neither control group evidenced significant reduction in drinking during the treatment phase, whereas both treated groups showed gains consonant with those observed in prior studies. This suggests that behavioral self-control training has a specific effect on drinking behavior, but that it can be equally effective in self- or therapist-administered formats.

Not every study has yielded positive findings, however. In a well-controlled evaluation with inpatient alcoholics, Foy, Nunn, and Rychtarik (1984) found that patients given a broad-spectrum moderation-oriented program in addition to hospital treatment showed significantly less abstinence and more abusive drinking than controls receiving only hospital regimen. The difference persisted for 6 months, but was nonsignificant thereafter. Other studies have reported very low rates of success in teaching moderation (Czypionka & Demel, 1976; Ewing & Rouse, 1976; Maxwell, Baird, Wezl, & Ferguson, 1974). It is noteworthy that all studies reporting negative findings with controlled drinking training (including Pendery *et al.*, 1982) have had one commonality: the patients studied were inpatient chronic alcoholics, often with high levels of physical dependence. By contrast, the positive studies reported above have been predominantly evaluations of moderation training with out-

patient problem drinkers having little or no documented physical dependence.

Behavioral self-control training methods (with a goal of moderation) have been subjected to a large number of controlled and comparative evaluations—more, in fact, than any other single method for treating alcohol problems. The majority of these studies have employed random assignment to treatment conditions and have verified self-reports with collateral interviews or objective indexes. With outpatient problem drinkers, consistent improvement rates of 60% to 70% have been found at follow-ups as long as 2 years (W. R. Miller & Baca, 1983). With drunk driving offenders, behavioral training has been found to be significantly more effective than traditional approaches. Controlled drinking appears to be an attainable and successful goal for problem drinkers who have not established significant degrees of dependence (W. R. Miller, 1983; W. R. Miller & Caddy, 1977; W. R. Miller & Hester, 1980). Chronic inpatient alcoholics, by contrast, have presented a rather mixed picture, and negative findings with controlled drinking training have been restricted to this population. Current data (e.g., Foy *et al.*, 1984; Pendery *et al.*, 1982) indicate that controlled drinking training is not an effective method for chronic alcoholics who are severely dependent.

Operant Methods

Operant conditioning techniques alter behavior through modification of its consequences. With alcoholics, reinforcement and punishment contingencies have been used to influence drinking and drinking-related behaviors.

A very large literature attests to the effectiveness of reinforcement contingencies in influencing drinking behavior within laboratory settings (for reviews see Heather & Robertson, 1983; W. R. Miller & Hester, 1980). *In vivo* applications of operant methods have been fewer, and published studies consist mostly of successful case reports. Taken together, the laboratory and case reports indicate that drinking behavior *can* be influenced by contingencies of reinforcement and punishment.

Surprisingly few controlled reports have appeared, however. Liebson, Bigelow, and Flamer (1973) were successful in increasing disulfiram compliance among methadone patients by making methadone contingent on taking disulfiram. Patients who were required to take disulfiram in order to obtain methadone showed significantly fewer drinking days (1%) than a randomly assigned control group receiving methadone noncontingently (17%). Rosenberg, Gerrein & Schnell (1978), however, were unsuccessful in decreasing alcoholics' drinking by offering them marijuana cigarettes contingent on their attending sessions. This

failure may have been due to ineffectiveness of the reinforcer or to ineffectiveness of the counseling sessions (or both).

Two populations that have commonly been coerced into treatment (usually by threat of punishment for noncompliance) are drunk driving offenders and problem drinking employees. It is quite clear that the threat of imprisonment or job loss can be effective in increasing compliance with treatment recommendations, although such compliance typically ends as soon as the contingency is removed (e.g., C. M. Rosenberg & Liftik, 1976). In this sense, coercion is "effective." The long-term impact of coerced treatment on drinking behavior is quite a different matter, however, and one that cannot be answered without considering *the treatment into which the person is being coerced.* Coerced compliance with an ineffective treatment program will not produce long-term change in drinking patterns unless the coercion itself has an effect independent of treatment. A properly controlled evaluation would consist of random assignment to (a) mandatory treatment, or (b) a nontreatment or minimal treatment alternative. With regard to drinking drivers, three studies (already reviewed) have found no effect of coerced treatment (Brandsma *et al.*, 1980; Ditman *et al.*, 1967, Swenson & Clay, 1980). Three other studies evaluating controlled drinking training found significantly greater reductions in subsequent drinking behavior of offenders receiving mandated treatment, as compared with untreated offenders (Brown, 1980; Coghlan, 1979; Lovibond, 1975). Studies contrasting the improvement of voluntary versus mandated clients within the same treatment program have typically found no significant differences in outcome (e.g., Freedberg & Johnston, 1980; W. R. Miller, 1978; Smart, 1974).

Overall, then, it is clear that reinforcement and punishment contingencies can be used to enhance program compliance, but that ultimate impact on drinking behavior depends on the effectiveness of the program itself. Clients mandated to treatment respond similarly to voluntary clients undergoing the same treatment. It is meaningless, therefore, to discuss the "effectiveness" of coercion methods (e.g., employee assistance programs or legal mandating of treatment) in general. The treatment impact of coercion can be defined only in relation to the intervention into which the individual is coerced. As currently practiced in the United States, for example, coercion programs commonly refer individuals into costly disease-oriented treatment consisting of components with little or no known effectiveness.

Broad-Spectrum Approaches

In the 1970s, the concept of broad-spectrum treatment began to be applied in the alcoholism field. The premise of this approach is that

drinking behavior is functionally related to other problems in the person's life, and that an approach addressing this broader spectrum of problems is more effective than one that focuses on drinking alone. Research to date has focused particularly on hypothesized skill deficits of alcoholics. The typical prediction is that alcoholics who are taught crucial coping skills will be more successful in maintaining sobriety than those whose treatment focuses only on alcoholism.

Social Skills Training. Alcoholics are often deficient in social skills. Several controlled studies have examined the value of adding social skills training to an alcoholism treatment program, and the results to date have been quite consistent. Freedberg and Johnston (1978b) found that the addition of assertiveness training to a 3-week inpatient program substantially improved treatment outcome at one-year follow-up (36% versus 24% abstinent in the control group). Combining abstinent and improved categories, the assertion and control groups yielded success rates of 72% and 57%, respectively.

Chaney, O'Leary, and Marlatt (1978) also reported a one-year follow-up of V.A. alcoholics given assertiveness training in addition to the regular treatment program. The trained group practiced assertive responses to a range of problem situations, whereas a control group was encouraged to express and discuss personal feelings about these same situations without practicing new responses. A second control group received regular hospital treatment. At one year, the group given assertion training showed significantly greater reductions in total number of days drunk, length of drinking period, and total alcohol consumption, relative to both control groups.

Jackson and Oei (1978) compared social skills training with a cognitive restructuring treatment intended to change clients' belief structures that inhibit assertive behavior. Alcoholics received either of these treatments or traditional supportive therapy as a control condition. Both treatments proved superior to supportive therapy. The social skills training group was significantly more improved than the cognitive therapy group at posttreatment, but by 3 months the direction had reversed, with the cognitive therapy group showing better maintenance of gains. This study points to the importance of addressing cognitive patterns in social skill training. In a subsequent study, Oei and Jackson (1980) randomly assigned 32 alcoholics to receive either social skills training or traditional supportive therapy, with each condition further divided into individual or group format. The social skills training group showed superior gains on measures of alcohol consumption, personality and social functioning throughout one year of follow-up. Overall there were no main effects of group versus individual therapy formats, although in

the social skills training condition there appeared to be a slight advantage for group over individual training.

West (1979) compared alternative methods of teaching communication skills to alcoholics and found that a branching-programmed manual yielded better acquisition than nonbranching material presented in either videotape or written form. West further found that acquisition was increased by providing the opportunity for practice of new social skills. The group receiving both programmed instruction and practice reported significantly fewer drinking episodes at a 4-week follow-up than a control group receiving neither.

Finally, Ferrell and Galassi (1981) assigned patients in a milieu program to receive additional treatment consisting of either assertiveness training or human relations training. Clients were selected for the program on the basis of low scores on a scale of adult self-expression, indicating a need for social skills training. The assertion training group showed significantly higher rates of abstinence at both one year (38% versus 11%) and 2 years (25% versus 0%) after treatment. The assertion group likewise reported significantly more months of abstinence, on the average, over the 2 years of follow-up.

Controlled research to date clearly supports social skills training as a helpful addition to alcoholism treatment. Comparative findings currently available suggest that optimal elements include assertiveness training, group training with practice, branching programmed instruction (if written materials are used), and attention to cognitive inhibitions.

Stress Management. Stress has often been hypothesized as an antecedent of drinking and relapse, and stress management has been evaluated as a broad-spectrum adjunct to alcoholism treatment. Both relaxation training and systematic desensitization with alcoholics have been subjected to controlled evaluation.

Blake (1967) reported that alcoholics who received relaxation training in combination with electrical aversion therapy showed superior improvement (59%) at 12 months, relative to those assigned to receive only aversion therapy (50%). Freedberg and Johnston (1978a) compared the outcome of a group given relaxation training in addition to regular inpatient treatment, with that of a control group receiving only the latter. At 12 months, no differences were found on drinking measures, although the relaxation group fared significantly better on measures of employment, depression, and relaxation. In other controlled studies, both Sisson (1981) and W. R. Miller and Taylor (1980) found no impact on drinking measures of a relaxation intervention.

A study by S. D. Rosenberg (1979) suggests a possible reason for these inconsistent findings. Rosenberg assigned 59 alcoholics to receive

either biofeedback relaxation training or alcoholism education (the control condition). He further differentiated clients as high versus low scorers on the anxiety subscale of the Alcohol Use Inventory. Among the high scorers (indicative of high levels of anxiety), clients given relaxation training showed significantly greater reductions in alcohol consumption than did controls. Among the low scorers, by contrast, no benefit was found from the addition of relaxation training. This finding suggests that broad-spectrum intervention may differentially benefit those alcoholics who need it.

Systematic desensitization has also been evaluated in controlled research. Lanyon *et al.* (1972) evaluated the effectiveness of a confrontational "interpersonal aversion" procedure with or without the addition of systematic desensitization. At 6- to 9-month follow-up, 71% (5/7) of those taught desensitization were abstaining, as compared with 14% (1/7) of those given confrontation alone, and 25% (1/4) in a randomly assigned control group consisting of group discussion. Piorkowsky and Mann (1975) set out to compare desensitization, covert sensitization, and insight therapy, but a 65% attrition rate (26/40) precluded meaningful interpretation of their findings (one abstinent in each group at 6 months). Storm and Cutler (1969) found no differences in treatment outcome at 6-month follow-up between outpatients given desensitization versus standard alcoholism clinic treatment, but 62% of patients dropped out of each group, again clouding interpretation. Finally, in a previously mentioned study, Hedberg and Campbell (1974) found an 87% (13/15) improvement rate in a group given desensitization, which was equivalent to the improvement rate in family therapy condition, but superior to rates reported for groups receiving (by random assignment) either electrical aversion or covert sensitization.

Community Reinforcement Approach. If one were to judge the effectiveness of alcoholism treatment methods based on the strength of scientific support available for them, the community reinforcement approach (CRA) would surely be at the top of the list. A series of well-controlled studies have provided strong evidence trhat this intervention has a powerful impact on alcohol use and general adjustment. Yet the community reinforcement approach remains little known and seldom used.

The CRA is included with the broad-spectrum approaches because it is designed to restructure family, social, and vocational reinforcers in a manner that reinforces sobriety while discouraging further drinking through operant extinction or "time-out." The original program (Hunt & Azrin, 1973) included problem-solving training, behavioral family therapy, social counseling, and—for unemployed clients—job-finding training. This program was put to a stringent test. Hunt and Azrin

(1973) tested its effectiveness when added to a full inpatient program for chronic addicted inpatient alcoholics. Patients assigned (at random) to CRA in this study showed such massively larger gains than the hospital controls (alcohol education lectures and Alcoholics Anonymous) that by 6-month follow-up there was little overlap between the groups. CRA-treated patients were drinking on 14% of days (versus 79%), unemployed days were 12 times higher in the control group, and controls spent 15 times more days in institutions. All marriages in the CRA group remained intact, whereas 25% ended in separation or divorce in the control group. Collaterals confirmed self-report measures.

In 1976, Azrin published an improved version of CRA incorporating disulfiram, a behavioral program for disulfiram compliance, a "buddy" system, and daily self-monitoring of moods as an early warning system for impending relapse. He tested this intervention with a similar population, again comparing it with standard hospital treatment alone. The same counselors administered the hospital program (their accustomed approach) and the CRA. In this study, CRA clients at 6 months were drinking on 2% of days (versus 55%), spent 7% of days away from home (versus 67%), 20% of days unemployed (versus 56%), and no days institutionalized (versus 45%). These gains maintained very well in the long run, with CRA clients (all found at follow-up) showing more than 90% abstinent days at 12, 18, and 24 months.

Azrin *et al.* (1982) evaluated the contribution of disulfiram to their program. They compared the full CRA (Azrin, 1976) with disulfiram alone (but including the behavioral compliance program), both being added to regular outpatient treatment. A randomly assigned control group receiving the regular outpatient alcoholism treatment program reported over 50% drinking days, and approximately one third of days intoxicated and unemployed at 6-month follow-up. These rates were roughly double those obtained in the disulfiram-compliance group. The full CRA program, however, resulted in nearly total suppression of drinking days (0.9/month), days intoxicated (0.4/month), and unemployed days (2.2/month). By a 3-month follow-up, nearly all patients in traditional outpatient treatment had relapsed, a rare occurrence in the CRA group. It was noted that the CRA program was differentially beneficial for unmarried clients, whereas for married clients comparable gains were obtained from CRA and from disulfiram-compliance alone.

Mallams, Godley, Hall, and Meyers (1982) tested the value of one component of the CRA, attendance at a nondrinkers' social club. Clients were chosen at random to be encouraged or not encouraged to attend the alcohol-free club. Those so encouraged showed higher rates of attendance, greater reduction in drinking, less behavioral impairment, and

less time spent in environments associated with heavy drinking, as compared with controls.

Summary. Current research provides sound support for at least three broad-spectrum approaches: social skills training, stress management training, and community reinforcement approach. All three involve training clients in specific coping skills. Initial data on differential improvement indicate that such training is of maximal benefit to clients who are deficient in these coping skills. For this reason, not all populations will show increased benefit from broad-spectrum versus focused approaches (e.g., W. R. Miller *et al.*, 1980). Furthermore, there is some wisdom in resolving the drinking problem first and then evaluating remaining skill deficits, because many pretreatment problems show marked improvement following treatment focusing on drinking alone (W. R. Miller *et al.*, 1984).

LENGTH AND SETTING OF TREATMENT

It is tempting to assume that more treatment is better treatment, and that longer or more "intensive" interventions will yield superior outcomes. Although there has been a modest shift from inpatient to outpatient treatment for alcoholism in the United States (Knowles, 1983), expensive inpatient facilities continue to proliferate and to capture the majority of treatment dollars. Is this justified?

Some studies have compared residential treatment with less intensive and expensive nonresidential alternatives. Annis and Liban (1979), for example, compared a group receiving detoxification and halfway house treatment with a matched sample receiving detoxification only. At 3 months, official records indicated no difference in total drunkenness episodes, although halfway house residents were more likely to return for detoxification, whereas controls were more likely to be arrested when intoxicated. Edwards and Guthrie (1966, 1967) have randomly assigned alcoholics to inpatient (9 weeks) or outpatient (8 visits) treatment, and have found no significant differences in improvement at 6 or 12 months, with trends favoring the outpatient group on drinking and social adjustment measures. Edwards *et al.* (1977) and Orford, Oppenheimer, and Edwards (1976) randomly assigned alcoholics to intensive (inpatient plus outpatient options) treatment or a single session of counseling and found no significant differences in outcome at any point during 2 years of follow-up. Gallant *et al.* (1973) assigned offenders to compulsory inpatient plus outpatient treatment or to compulsory outpatient treatment alone, and reported no significant differences in outcome, although a high attrition renders these findings uninterpretable.

Kissin *et al.* (1970) compared inpatient rehabilitation with two forms of outpatient treatment and an untreated control. All treatments proved better than no treatment, with no significant differences between inpatient and outpatient settings. Random assignment in this study was compromised, however, by an opt-out procedure that could be exercised by clients displeased with their assignment. Pittman and Tate (1972) randomly assigned alcoholics to 3 to 6 week inpatient treatment followed by outpatient treatment and Alcoholics Anonymous, or to a 7- to 10-day detoxification only, with no outpatient aftercare. At a 12-month follow-up, four deaths were reported in the treated group as compared with one in the control group, and no significant differences between groups were reported on any measure. Of 19 abstinent cases in the inpatient condition, 18 had made extensive use of outpatient aftercare. Smart, Finley, and Funston (1977) randomly assigned (with opt-out) alcoholics to outpatient, halfway house, or inpatient treatment. Defining success as at least a 50% reduction in (or no) detoxifications, arrests, and convictions, the highest success rates (50%) were observed among patients either receiving outpatient care or refusing their treatment altogether. Inpatient treatment was associated with 25% successes, and no successes were found in the halfway house group. Stein, Newton, and Bowman (1975) randomly assigned alcoholics following detoxification to 25-day inpatient treatment or to aftercare alone. No significant differences in outcome were observed at 2, 4, 7, 10, or 13 months. Wilson, White, and Lange (1978) randomly referred alcoholic patients into inpatient hospital or to unspecified "community programs," and found that at 5 months the community-treated controls showed better self-concept, general adjustment, and reduction in alcoholism symptoms. No differences were found at 10 or 15 months. Penk, Charles, and Van-House (1978) used a matching design to contrast inpatient treatment with day-hospital care. The day-treatment group showed better outcome on employment and social activity, greater anxiety reduction, and equivalent reduction in drinking, as compared with inpatients. McLachlan and Stein (1982) used random assignment to place alcoholics in 4-week inpatient or day-clinic treatment. At 12-month follow-up no significant differences were found in alcohol or drug use, marital adjustment, or psychological measures. Day-clinic patients showed a 79% reduction in days of hospitalization during the follow-up year (compared with pretreatment year), whereas inpatients showed a 38% *increase* in days hospitalized. Finally, Longabaugh *et al.* (1983) employed a random assignment design with blocking to place alcoholics after detoxification into inpatient treatment or day-hospital care. At 6 months, no differences were observed, with trends favoring the day-hospital group on subjective adjustment measures.

Thus, among 12 controlled evaluations of inpatient treatment versus nonresidential alternatives, not a single study found superior outcome for the former, and in several the existing differences favored nonresidential settings. It is noteworthy that all of these studies employed either random assignment or careful matching, most included extended follow-up, the patients studied were alcoholics who would otherwise have been routinely admitted for inpatient care, and the findings in most cases were contrary to the expectations of the investigators.

Is length or intensity of inpatient treatment a factor in outcome? Mosher, Davis, Mulligan, and Iber (1975) assigned alcoholics at random to receive either long (30 days) or short (9 days) inpatient stays, combined with detoxification and outpatient aftercare. No differences were found between groups on measures of drinking, drug use, work status, or anxiety at either 3 or 6 months. Similarly, Page and Schaub (1979) found no differences at 6-month follow-up between alcoholics assigned at random to either 3 or 5 weeks of inpatient treatment. Willems, Letemendia, and Arroyave (1973) likewise used random assignment to either short (maximum 4 weeks) or long (8 to 26 weeks) inpatient treatment. At 2-year follow-up, five deaths were recorded in the long-treatment (LT) group, none in the short-treatment (ST) group. No significant differences were observed in rates of favorable outcome (abstinent or improved) at either 12 months (ST: 71%: LT: 55%) or 24 months (ST: 68%; LT: 52%). Walker, Donovan, Kivlahan, and O'Leary (1983) randomly assigned inpatient alcoholics to either 2 or 7 weeks of behaviorally oriented treatment. No significant differences emerged between groups on any measure at 3, 6, or 9 months, with small existing differences favoring the 2-week group. Finally, Stinson, Smith, and Kaplan (1979) randomly assigned inpatients to either an "intensive incare" ward heavily staffed with professionals or to a "peer-oriented incare" ward with few staff and an emphasis on peer interactions among patients. Although the investigators expected to find an advantage for the intensive approach, the opposite was found. Patients on the less intensive ward were significantly more improved on a drinking outcome measure, with no other significant differences appearing between groups at 3, 6, 12, or 18 months. Thus, of five controlled studies evaluating more versus less lengthy or intensive inpatient care, not one supported the more intensive treatment, and differences tended to favor shorter, less intensive methods.

Findings on intensity of outpatient care are less consistent. Pittman and Tate (1972) found that success after inpatient treatment was highly predictable from use of outpatient aftercare services. Robson, Paulus, and Clarke (1965) used post hoc matching to equate outpatients seen for one to four sessions versus five or more sessions. No differences in

abstinence rates was observed, but the longer-treated group showed greater reduction in severity of drinking problems and more overall improvement. Similar findings were reported by Smart and Gray (1978), who used post hoc matching to assemble groups treated for one visit, more than one visit but less than 6 months, or more than 6 months. Differences at 12 months were modest, reflected primarily in increased abstinence rates with longer treatment (3%, 11%, and 16%, respectively). In a series of controlled clinical outcome studies, W. R. Miller and his colleagues compared bibliotherapy (self-help manual plus minimal therapist contact) with 6 to 18 weeks of outpatient sessions (Buck & Miller, 1981; W. R. Miller & Baca, 1983; W. R. Miller & Taylor, 1980; W. R. Miller *et al.*, 1980, W. R. Miller *et al.*, 1981). In all studies, comparable improvement was observed in self-directed versus therapist-directed conditions at follow-ups as long as 2 years. This absence of difference is consistent with findings of controlled studies reviewed earlier, evaluating more versus less intensive outpatient treatment (Bruun, 1963; Edwards *et al.*, 1977; Ogborne & Wilmot, 1979; Vogler, Weissbach, & Compton, 1977; Vogler, Weissbach, Compton, & Martin, 1977; Zimberg, 1974). Among studies of outpatient therapy, then, nonrandom (matching) designs have yielded modest advantages for longer versus shorter treatment, whereas studies employing random assignment controlled designs have found no advantage in more intensive treatment.

Summary. Controlled research on length and intensity of treatment provides a very clear and consistent message: More treatment is *not* necessarily better treatment. If anything, differences that have emerged in controlled research to date would favor shorter and less intensive approaches, not only in cost-effectiveness but in absolute effectiveness. This finding has remained consistent across a variety of theoretical orientations and populations. The lack of an advantage for residential treatment and for longer or more intensive treatment has been demonstrated in precisely the population for which such treatment has been alleged to be necessary: chronic alcoholics. Similar results have been obtained for less severe problem drinkers, however. In the absence of any convincing evidence in favor of intensive or residential treatment over less costly alternatives, the burden of proof clearly lies with those who would advocate more heroic interventions. With no significant differences in effectiveness but massive differences in cost-effectiveness, it would appear that treatment should increasingly shift to an outpatient, community-based approach.

Of course, it makes little sense to talk about length or intensity of treatment without considering what kind of treatment is being offered. Some modalities lack evidence for effectiveness at any length or level of intensity. Future studies should determine whether length or intensity

are determinants of outcome in treatment having documented specific effectiveness. Certain subpopulations of alcoholics may also be identified that will show differential benefits from longer or more intensive levels of certain kinds of treatment. This brings us to our final consideration: the matching hypothesis.

MATCHING CLIENTS WITH TREATMENTS

The matching hypothesis suggests that treatment will be more effective when clients are matched with optimal interventions (Gottheil *et al.*, 1981). This idea is not only very sensible, but could provide substantial savings if unnecessarily intensive and expensive treatment could be averted through matching. Persuasive research evidence for the matching hypothesis has begun to appear, although the field is clearly in its infancy and sound empirical guidelines for matching must await further research. We will point to a few variables that appear to be promising predictors of differential treatment outcome.

Conceptual Level

Early exemplary research on matching is that of McLachlan (1972, 1974), who has postulated that clients with a low conceptual level (CL; e.g., preference for simpler constructs and rules) would show optimal response to a directive approach, whereas clients with a high CL would do better in nondirective therapy. McLachlan found that patients matched to therapy (high CL in nondirective, low CL in directive) showed a 70% recovery rate, whereas mismatched patients (low CL in nondirective, high CL in directive) showed a 50% rate of recovery. This is consistent with the common findings that successful responders to Alcoholics Anonymous (a low CL approach) are characterized by high authoritarianism, lower education, field dependence, religiosity, and conformity (for reviews see W. R. Miller & Hester, 1980; Ogborne & Glaser, 1981).

Neuropsychological Impairment

Alcoholic populations show rather consistent patterns of neuropsychological impairment, and the degree of such deficits might be predictive of differential response to treatment alternatives (W. R. Miller & Saucedo, 1983). The first direct test of this hypothesis failed to confirm the prediction that more impaired individuals would show more benefit from longer and more intensive treatment (Walker *et al.*, 1983). More

severe neuropsychological impairment has been associated with poorer overall outcomes within treatment, however (O'Leary, Donovan, Chaney, & Walker, 1979), and this area deserves further exploration.

Severity

A very promising differential predictor of outcome is severity of alcoholism. One highly consistent finding is that individuals with less severe problems are more likely to succeed in achieving controlled drinking, whereas more severe alcoholics show better prognosis with abstinence (W. R. Miller & Baca, 1983; W. R. Miller & Joyce, 1979; W. R. Miller & Hester, 1980; Orford *et al.*, 1976; Polich, Armor, & Braiker, 1981; Popham & Schmidt, 1976; Smart, 1978). This has led to recommendations that treatment goals be negotiated in relation to problem severity (W. R. Miller, 1983; W. R. Miller & Caddy, 1977). In a comparative study of intensive versus minimal treatment, Orford *et al.* (1976) reported that among gamma (severe) alcoholics, all successful cases had received intensive treatment, whereas 80% of failures had received minimal treatment—a pattern that was precisely reversed for less severe alcoholics. Similarly, McLellan, O'Brian, Kron, Alterman, and Druly (1980), and McLellan, Woody, Luborsky, O'Brian, and Druly (1983) found that matched cases (severity of problem with intensity of treatment) showed substantially better outcomes than mismatched cases (e.g., severe problem in less intensive outpatient treatment). These latter two studies suggest that intensive treatment may be differentially beneficial for alcoholics with more severe levels of problems and dependence.

Locus of Control

Rotter's (1966) Internal-External Locus of Control scale has been employed in several evaluations of matching. Abramowitz, Abramowitz, Roback, and Jackson (1974) found that alcoholics with an internal locus of control fared better in nondirective therapy, whereas those with an external orientation showed better prognosis in directive treatment. Obitz (1978) noted that patients volunteering to take disulfiram showed a substantially more external orientation than those rejecting disulfiram. O'Leary, Rohsenow, and Donovan (1976) found that attendance at aftercare meetings could be predicted from locus of control orientation, with externals being more likely to continue attending. These are correlational findings, however, and the only controlled study to date (Schmidt, 1978) failed to confirm the hypothesis that internals would benefit differentially from a self-directed approach to treatment.

Family History

For more than a decade, research has pointed to a "familial" type of alcoholism characterized by a more rapid and severe progression (e.g., Winokur, Reich, Rimmer, & Pitts, 1970). Surprisingly, family history of alcoholism has yet to be used as a matching variable in research on selection of optimal treatment. W. R. Miller and Joyce (1979) found that a history of paternal alcoholism predicted abstinence as an outcome, whereas absence of paternal alcoholism was associated with successful controlled drinking outcomes. If indeed familial alcoholism is qualitatively different from other types, family history is a good candidate for inclusion in future research on matching.

Life Problems

The client's life problems (beyond alcoholism itself) may indicate need for specific types of treatment. Psychotropic medications may be appropriate in treating psychiatric syndromes that persist into sobriety. Broad-spectrum interventions intended to treat a problem underlying alcohol abuse are most likely to be effective with those individuals who show evidence of the target problem (e.g., S. D. Rosenberg, 1979). Training in social or job-finding skills is most appropriate for clients who are currently deficient in these skills (Azrin *et al.*, 1982). The addition of such broad-spectrum components to routine treatment for *all* alcoholics may have no impact or even a detrimental effect on overall outcome (W. R. Miller *et al.*, 1980). An individualized assessment of additional life problems, however, can point to needed interventions beyond those intended to deter drinking.

Perceived Choice

In the absence of sound empirical grounds for matching clients with treatments, an alternative approach is to offer clients a menu of alternatives and negotiate the treatment of choice. Several literature reviews have concluded that clients offered such a choice will be more motivated to participate in treatment and will show more favorable outcomes than clients given no alternatives (Costello, 1975; W. R. Miller, 1985: Parker, Winstead, & Willi, 1979). Cronkite and Moos (1978) found that a significant proportion of explained variance in treatment outcome is accounted for by the interaction of patient and therapy variables, supporting the importance of matching patient and program characteristics. The only direct experimental support for self-matching, however, comes from a study by Kissin, Platz, and Su (1971). Alcoholic patients were assigned

at random to be offered one, two, or three treatment options. Patients given an option frequently exercised it (one half to two thirds rejected the original treatment offered to them, given a choice). Patient characteristics were poor predictors of acceptance or outcome of particular treatments. Choice, however, proved important. Individuals given options showed greater acceptance of their treatment and more favorable outcomes, increasing in proportion to the number of choices offered. At least until robust empirical matching schemes emerge, an optimal procedure may be to allow clients to make informed choices among a range of plausible alternatives (see Chapter 8, this volume).

CONCLUSIONS

Several treatment approaches have been shown to be effective in reducing drinking behavior, a necessary first step in treating alcohol-related problems. Aversive counterconditioning methods have a long history of positive outcomes in uncontrolled research, and controlled or comparative studies have likewise supported the specific efficacy of aversion therapies in fostering abstinence or reduced consumption. Although both chemical and electrical aversion therapies have been associated with reduction of consumption, covert sensitization offers several important advantages. Because it is based on imagery, covert sensitization requires no physical aversive agents and is therefore less dangerous and ethically problematic. It can be administered in either inpatient or outpatient settings. Further research is needed to delineate optimal procedures for using this technique with alcoholics. Behavioral self-control training is also well supported as an effective approach for reducing consumption by problem drinkers.

The status of pharmacotherapeutic agents in reducing drinking behavior is currently in question. Few studies have demonstrated specific effectiveness of antidipsotropic agents such as disulfiram, and the bulk of their impact can be attributed to placebo effects. It is unclear whether the minimal benefits that have been demonstrated outweigh the dangers of side-effects and long-term health risks associated with these drugs. There are some encouraging early data to indicate that certain antidepressants as well as lithium may engender decreased desire for or consumption of alcohol by some alcoholics. Findings are quite mixed, however, and further data will be required to clarify the mechanisms of such action and the specific subpopulations in which such benefit may apply.

Once drinking behavior has been terminated or curtailed, the challenge is to maintain this pattern. Current research points to the value of

broad-spectrum interventions in increasing the probability of prolonged sobriety. Specifically, social skills training, stress management training, and marital and family therapy have been found to promote the maintenance of sobriety. Azrin's community reinforcement approach, which combines several of these elements, has been shown to increase abstinence and adjustment substantially when added to a program focusing primarily on alcoholism.

The picture that emerges is that of a two-stage treatment process, requiring different interventions. One set of interventions is optimal in changing drinking behavior itself, in bringing about abstinence or moderation. Here aversion therapies and behavioral self-control training are well supported. Another set of interventions aims primarily at environmental contingencies and other life problems, attempting to bring about changes that will help to maintain sobriety. Neither set of interventions may be sufficient in itself to bring about lasting change. A combination of demonstrably effective procedures from each category would seem to be optimal, and Azrin's data support this notion.

Table 1 contains a list of interventions that appear to have specific effectiveness in the treatment of alcoholism, based on available empirical evidence. Beside this list is another, specifying modalities commonly employed in current American alcoholism treatment programs. The lack of overlap between these two lists is evident. American treatment of alcoholism follows a standard formula that appears to be impervious to emerging research evidence, and has not changed significantly for at least two decades (W. R. Miller, in press; Moore, 1977). It is noteworthy that the "standard practice" list in Table 1 contains no modalities that have been soundly supported by research. Current empirical evidence suggests that a combination of these ingredients would

TABLE 1.
Supported Versus Standard Alcoholism Treatment Methods

Treatment methods currently supported by controlled outcome research	Treatment methods currently employed as standard practice in alcoholism programs
Aversion therapies	Alcoholics Anonymous
Behavioral self-control training	Alcoholism education
Community reinforcement approach	Confrontation
Marital and family therapy	Disulfiram
Social skills training	Group therapy
Stress management	Individual counseling

not be expected to yield therapeutic gains substantially greater than the spontaneous remission rate, and indeed this appears to have been the overall result of American alcoholism treatment over the past few decades (W. R. Miller & Hester, 1980).

Another perplexing inertia is the persistence of expensive inpatient treatment approaches despite clear evidence that they offer no advantage in overall effectiveness. The substantially greater cost of such approaches increases the burden borne in taxes and insurance premiums; yet every controlled evaluation to date reflects no increased benefits to offset these costs. Future research may identify select subpopulations for whom such intensive and expensive methods are differentially beneficial. Overall, however, current data indicate that alcoholism can be treated in outpatient settings with equal effectiveness but at substantially lower cost.

In conclusion, we offer three basic principles as prudent guidelines in designing future alcoholism treatment programs. First, treatment programs, both voluntary and involuntary, should be composed of modalities supported by current research as having specific effectiveness, and consideration should be given to preferential funding of programs so constituted. Second, the first interventions offered should be the least intensive and intrusive, with more heroic and expensive treatments employed only after others have failed. Third, as research warrants, clients should be matched to optimal interventions based on predictors of differential outcome. Clients should be informed participants in their own treatment planning process, and should be offered a range of plausible alternatives along with fair and accurate information on which to base a choice.

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8

Matching Problem Drinkers With Optimal Treatments

WILLIAM R. MILLER AND REID K. HESTER

It seems the most obvious of commonsense assertions: that individuals with varying needs and characteristics will respond optimally to different kinds of intervention, and therefore that clients should be matched with optimal approaches rather than all being treated in the same way. Indeed many if not most alcoholism treatment programs give lip service to the need for individually tailoring intervention programs. Yet this apparently simple and uncontentious assertion is, in fact, a highly complicated and interesting issue which—if taken seriously—has important research and clinical implications that are not only controversial, but potentially revolutionary, at least for alcoholism treatment practices as they currently exist in the United States.

UNDIFFERENTIATED TREATMENT: THE STATUS QUO

The typical alcoholism program, although claiming to individualize intervention, in fact affords few choices and offers a rather standard set of treatment procedures in which all individuals participate (Costello, 1975; Orford & Hawker, 1974). Where alternatives exist, assignment

WILLIAM R. MILLER • Department of Psychology, University of New Mexico, Albuquerque, NM 87131. REID K. HESTER • Behavior Therapy Associates, Albuquerque, NM 87110. Portions of this chapter were presented at the Third International Conference on Treatment of Addictive Behaviors, North Berwick, Scotland, August, 1984.

appears to be unrelated to patient characteristics (Bromet, Moos, Wuthmann, & Bliss, 1977; Finney & Moos, 1979; Gibbs, 1980, 1981; Hague, Donovan, & O'Leary, 1976; Hansen & Emrick, 1983; Martin, 1979; Smart, 1978), and even when differential diagnosis is made at intake it is often ignored during treatment (Schmidt, Smart, & Moss, 1968). The best predictor of the treatment offered to an individual appears to be the type of place to which the person goes for evaluation: each program tends to recommend its own services (Hansen & Emrick, 1983).

Still more perplexing is the fact that the standard elements of a typical United States alcoholism treatment program (detoxification, alcoholism education, A.A. meetings, group confrontation therapy, and disulfiram) individually and collectively lack adequate experimental support of effectiveness, whereas other approaches with well-documented efficacy remain largely unused (see Chapter 7, this volume). There is little convincing evidence that the effectiveness of this "standard formula" alcoholism treatment significantly exceeds spontaneous remission or minimal intervention (Edwards *et al.*, 1977). The status quo, then, appears to be undifferentiated and at best modestly effective treatment.

One plausible explanation for mediocre outcomes is the absence of appropriate client–treatment matching. Imagine a physician whose ministrations were limited to prescribing a single broad-spectrum antibiotic and offering reassurance. For some patients (those with conditions appropriately treated with this antibiotic, or who respond well to placebo) the treatment would be wonderfully effective, but for those with other serious maladies (or even infections requiring a different antibiotic) the physician's efforts would be to no avail. The failure here is not in providing a totally ineffective treatment, but rather in the absence of differential diagnosis and alternative efficacious interventions.

THE MATCHING HYPOTHESIS

The underlying premise of a matching strategy is a hypothesis: that clients who are appropriately matched to treatment will show superior outcome relative to those who are unmatched or mismatched. In experimental-design terms, this hypothesis predicts an *interaction* effect even in the absence of main effects of treatment or predictor variables. This relationship is illustrated in Figure 1, which displays the efficacy of two hypothetical alcoholism treatment approaches: A and B. The horizontal axis represents a hypothetical client-predictor variable, ranging from "low" to "high" (imagine, for example, that it represents severity of

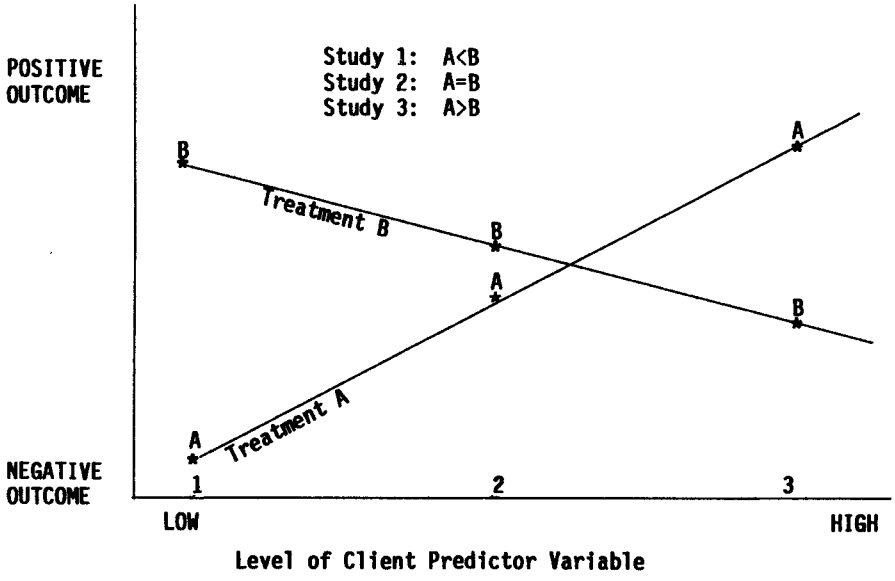

FIGURE 1. A hypothetical client-by-treatment interaction.

dependence or socioeconomic status). The relative effectiveness of treatments A and B found in a given study will depend on the population being treated. In Study 1, a "low" population is treated, and B is found to be superior to A. In Study 2, with a "medium" population, no differences are found, and in Study 3 ("high") A exceeds B in effectiveness. Note that if a full range of clients were included in the population studied and were all averaged together, no substantial differences between A and B would be found, leading to the mistaken conclusion that treatments A and B are equivalent.

The failure to take matching into account, then, may explain the typical findings across studies in the alcoholism treatment field: either no significant differences, or inconsistent differences. If the matching hypothesis is correct, then knowledge and clinical efficacy will be significantly advanced by determining which treatments are optimal for which types of clients. The alternative (null) hypothesis is that client characteristics do not differentially affect the outcome of various alcoholism treatment methods.

A variety of rational schemes for matching have been proposed (Brown & Lyons, 1981; Ewing, 1977; Gibbs, 1980; Glaser, 1980; Gottheil, McLellan, & Druley, 1981; O'Leary, Donovan, Chaney, & O'Leary, 1980). For the matching hypothesis to be testable, however, its elements must be operationalized. What are the "treatment" elements to be com-

pared? These might be alternative *methods* (e.g., aversion therapy vs. disulfiram), *goals* (e.g., moderation vs. abstinence), *settings* (e.g., inpatient vs. outpatient), or *therapists* (e.g., peer vs. professional). The criteria for success also must be specified. Some studies have relied upon patient ratings of helpfulness as the criterion of efficacy (Obitz, 1975; Price & Curlee-Salisbury, 1975), but more direct measures of intervention impact are desirable. One could predict superior *motivation* for treatment with matching (e.g., more likely to accept, continue in, and comply with treatment; Miller, 1985b). Matching might also improve the *effectiveness* of treatment (e.g., reduction in drinking and symptoms, or increased duration of sobriety), or the *efficiency* of treatment (less costly interventions, fewer relapses and less need for renewed treatment). Adequate periods of follow-up and measures of effectiveness must be employed. Price and Curlee-Salisbury (1975), for example, reported differential predictors of therapeutic success with alcoholics, but used as their outcome measure the patients' immediate postdischarge perceptions of how helpful various elements of a standard program had been. The design therefore lacked differential treatment, follow-up, and objective measures of therapeutic impact—all of which are important conditions of an adequate matching research strategy.

RESEARCH STRATEGIES

Before proceeding to a review of current knowledge on matching, we wish to distinguish three research strategies for studying matching effects. We will term these the predictor, differential, and modeling approaches.

Predictor Approach

By far the largest number of studies reporting data relevant to matching have employed a *predictor* strategy. In this method a single treatment approach is studied, and individual difference variables are examined for their ability to predict outcome following this particular intervention. The design is correlational, and appropriate statistical methods include multiple regression, discriminant function analysis, and canonical correlation—for continuous, nominal, and multiple continuous outcome variables, respectively (Harris, 1985).

Knowledge contributed by predictor designs is valuable as it accumulates over time. Each study suggests predictors of effectiveness of a particular kind of treatment. To the extent that such findings are repli-

cated and yield consistency across studies, one can begin to derive promising schemas for matching clients with interventions.

Differential Approach

A weakness of the predictor approach is its failure to demonstrate directly that alternative treatments differ with regard to predictors of outcome. The *differential* approach remedies this fault by comparing two or more types of treatment within the same population and study. Ideally clients are assigned at random to alternative interventions, outcomes are determined, and then statistical analyses are performed to compare the characteristics of "successes" within each treatment. Clients may be blocked before treatment on one or more relevant variables, or post hoc analyses may be performed to examine the predictive validity of multiple client variables. Success profiles can be developed for each individual treatment by using statistical methods described above, or treatment assignment can be regarded as one more predictor variable and entered into multivariate analyses along with client characteristics to yield differential equations.

Modeling Approach

A third research strategy uses treatment assignment as the dependent variable, as the subject of study. The underlying question is: what criteria are being used to assign clients to treatments within an existing system? This *modeling* strategy has been introduced by Goldberg (1968, 1971) for studying the judgment processes of clinicians. Quantitative client variables are used as predictors, and treatment assignment (chosen by a therapist) is the criterion to be predicted. Through discriminant function analysis it is possible to derive a multivariate equation that models the judgment processes of the clinician in making treatment assignments.

This strategy, though seldom used, has several possible applications. One is to determine the implicit criteria being used to decide who gets what type of treatment. Studies of this type to date have found assignment to be at best modestly related to client characteristics studied, suggesting an arbitrary or undifferential matching process (e.g., Bromet *et al.*, 1977). This strategy would be appropriate in examining for arbitrary discrimination (on the basis of race, socioeconomic status, sex, age) in assignment to different treatment approaches (e.g., Hollingshead & Redlich, 1958).

A fascinating and as yet untried application of this approach would be to model the judgment processes of the most successful diagnosti-

cians (e.g., Goldberg, 1968, 1971). Individual clinicians could be permitted to use their own criteria to match clients with treatments. Patterns of client outcome could then be studied (how many accepted treatment, completed it, showed positive outcomes), identifying the diagnosticians with higher success rates at matching. The judgment processes of these "good matchers" could then be modeled and compared with the judgment processes of less successful matchers. Likewise the efficacy of matching by these clinicians could be compared with alternative matching procedures based on actuarial methods (Goldberg, 1965, 1972) or choices by the clients themselves (Parker, Winstead, & Willi, 1979; Parker, Winstead, Willi, & Fisher, 1979).

Because the modeling approach has not yet been adequately applied in alcoholism treatment research, our review will be restricted to a summary of findings from predictor and differential approaches. We begin with predictor studies, based on single treatment conditions.

PREDICTOR STUDIES

Are there client characteristics that predict favorable outcome regardless of the type of treatment given? Gibbs and Flanagan (1977) posed this question in an extensive review of the predictor literature in alcoholism treatment. They defined a general predictor as "one which has been investigated for its predictive power in six or more treatment groups . . . has been found of predictive value in all of these treatment groups" (p. 1101). Using this stringent criterion, they found no general predictors. By loosening their criterion, however, they were able to point to a set of "somewhat less than perfect predictors." These included employment status and work history, marital or cohabitation status, occupational or social status, arrest record, diagnosis of neurosis, IQ variables, and history of Alcoholics Anonymous contact prior to treatment. Such variables have been found to be predictive of outcome in *some* studies, but both the presence and direction of prognostic predictiveness are variable. Data published since the Gibbs and Flanagan review have yielded no greater hope for the utility of general predictors. It appears that prognosis for recovery from alcoholism cannot be adequately predicted from pretreatment variables without reference to the type of treatment received.

If there are no stable predictors for all treatments, are there client characteristics that predict successful outcome *within* specific treatment modalities? To examine this question we have grouped predictor studies into 11 categories, according to the type of treatment examined.

Psychotropic Medications

Because psychotropic medications are used in alcoholism treatment with the intent of alleviating a related form of psychopathology, an obvious candidate for prediction studies would be the pretreatment presence and level of the targeted pathology. Thus it could be hypothesized that alcoholics treated with antidepressant medication would show improvement (in alcoholism) to the extent that they evidenced pretreatment depression. Merry, Reynold, Bailey, & Coppen (1976) reported that depressed alcoholics receiving lithium carbonate, relative to controls receiving placebo, spent fewer days drinking and had fewer days of incapacitation by alcohol. Surprisingly, pretreatment level of pathology is yet to be adequately explored as a predictor of change in alcoholism following psychotropic medication.

Certain forms of pharmacotherapy may produce negative iatrogenic effects with specific diagnostic groups. An illustrative example is a study by Tomsovic and Edwards (1970) comparing alcoholics receiving or not receiving psychedelic medication (lysergide) as part of their treatment. Not surprisingly, patients with diagnosed schizophrenia (in addition to alcoholism) showed detrimental effects from the hallucinogen, whereas transient benefits were reported for nonschizophrenic alcoholics.

A difficulty in using pretreatment pathology is the fact that many types of problems concurrent to alcohol abuse will remit spontaneously once the drinking problem has been resolved (Miller, Hedrick, & Taylor, 1983). For this reason, it has been recommended that the use of psychotropic medication might be delayed until alcohol abuse has been resolved, and that the persistence of psychopathology during aftercare may be a better predictor of benefit from appropriate medications (Ditman & Crawford, 1966; Miller & Hester, 1980).

Disulfiram

Numerous studies have explored pretreatment client characteristics as predictors of favorable outcome with disulfiram (cf., Lundwall & Baekeland, 1971). Reported favorable prognostic factors include being older (Baekeland, Lundwall, Kissin, & Shanahan, 1971; Hoff & McKeown, 1953), male (Hoff & McKeown, 1953), socially stable (Shaw, 1951), married (Azrin, Sisson, Meyers, & Godley, 1982), less depressed (Baekeland *et al.*, 1971), more motivated (Baekeland *et al.*, 1971; Fuller & Roth, 1979; Wexberg, 1953; cf. Miller, 1985b), more compulsive (Wallerstein, 1958), and having less psychopathology (Bowman *et al.*, 1951), a more external locus of control (Obitz, 1978), and a longer history of alcohol abuse (Baekeland *et al.*, 1971; Hoff & McKeown, 1953).

Alcoholics Anonymous

We have discussed elsewhere the absence of adequate outcome studies of A.A. and the methodological problems inherent in the available research (Miller & Hester, 1980). We found only one study (Davidson, 1976) relating prognostic factors to outcome in A.A.: Males have more favorable outcomes than females. Otherwise the literature has focused on predictors of affiliation or attendance, which are at best indirect indicators of outcome. A.A. attendance has been reported to be related to authoritarianism and lower educational levels (Canter, 1966; Ditman, Crawford, Forgy, Moskowitz, & MacAndrew, 1967), less psychopathology (Gerard, Saenger, & Wile, 1962), affiliative and dependency needs (Trice & Roman, 1970), field dependence (Reilly & Sugarman, 1967), greater severity of alcohol-related problems, and higher overall use of external sources of aid to stop drinking (O'Leary *et al.*, 1980). In a review of this literature, Ogborne and Glaser (1981) concluded that "affiliates of A.A. are more likely to be men, over 40 years of age, white, middle or upper class and socially stable" (p. 666), and they speculated on a range of other predictive factors.

Psychotherapy

Controlled research points to no demonstrable benefit of individual or group psychotherapy in alcoholism treatment (Miller & Hester, 1980). Do certain types of clients benefit differentially? Wallerstein (1958) noted that clients with borderline depression or psychosis seemed to do better with psychotherapy, whereas compulsiveness was predictive of favorable outcome regardless of the type of treatment received. Pomerleau and Adkins (1980) found that higher baseline levels of alcohol consumption were associated with less favorable outcome, whereas longer duration of drinking problems predicted greater persistence in treatment and greater reduction in consumption. These factors, however, were not differential predictors, but were prognostic of outcome both in behavior therapy with a moderation goal and in traditional group psychotherapy. Kissin, Platz, and Su (1970) reported that patients who accepted psychotherapy had higher verbal intelligence and occupational stability, and that successful responders to psychotherapy were more intelligent and field independent. Finally McLachlan (1972), in research to be reviewed later, found that client conceptual level is predictive of outcome in psychotherapy, with the direction of prediction depending on the orientation of the therapist.

Chemical Aversion Therapy

One of the oldest forms of alcoholism treatment employs the nausea-inducing drug emetine as an unconditioned stimulus within an aversive counterconditioning paradigm (Miller & Hester, 1980). Favorable prognostic factors in aversion therapy were well described by Voegtlin and Broz (1949): being married, older, having a longer drinking history (regardless of age), prior successful periods of abstinence, better occupation, and higher financial status. More than 30 years later, Neuberger *et al.* (1982) reported a similar pattern: Married, employed alcoholics had the highest abstinence rates at follow-up, and success rates increased in older groups.

Because aversion therapy relies (theoretically) on the establishment of a conditioned aversion to alcohol, it is sensible that outcome might be related to the establishment of such an aversive response during treatment. Consistent with this prediction, Boland, Mellor, & Revusky (1978) found that individuals who developed an illness reaction during taste aversion (with lithium) showed higher rates of abstinence at 6-month follow-up. Cannon, Baker, and Wehl (1981) likewise found an inverse relationship between heart rate response during conditioning and posttreatment (12-month follow-up) drinking among subjects receiving chemical aversion therapy. Unfortunately there are as yet no known pretreatment predictors of the establishment of conditioned aversion. Vogel (1960, 1961a,b), in an experimental study, reported that steady-drinking introverted alcoholics conditioned faster and extinguished more slowly than their extraverted counterparts, and she speculated that introverts might therefore be more appropriate for aversive counterconditioning. To date, however, this hypothesis has not been tested in a clinical trial.

Covert Sensitization

An alternative approach to aversion therapy employs negative imagery to establish conditioned avoidance of alcohol. Elkins (1980) reported that patients who developed conditioned nausea during covert sensitization treatment remained abstinent significantly longer than than those who did not. (Interestingly, this difference disappeared when he expanded his remission criteria to include moderate consumption.) Miller and Dougher (1985) were able to replicate this finding, reporting that drinking status at 18-month follow-up was predictable from the establishment of conditioned aversion during nausea sensitization. A comparison group received covert sensitization based on imagery of aversive consequences of drinking (other than nausea). Within

this group, no relationship was observed between conditioning and outcome, although overall success rate was comparable to that in the nausea aversion groups. Again, it would be helpful to know pretreatment predictors of responsiveness to this promising form of treatment.

Relaxation Training

Although relaxation training has not been found to add substantially to the effectiveness of alcoholism treatment (Miller & Hester, 1980), it is plausible that certain clients—particularly those with greater anxiety—might benefit differentially from learning relaxation skills. The only study to examine this hypothesis supports it. Rosenberg (1979) found that alcoholics with higher scores on the anxiety subscale of the Alcohol Use Inventory showed significantly better outcome at 12 months if given relaxation training, relative to those not receiving such training. Among clients low in anxiety, however, no differential benefit was found. This finding, though in need of replication, demonstrates the danger in prematurely dismissing a treatment as ineffective because of a lack of impact within an undifferentiated population. Failure to differentiate on critical predictor dimensions may mask the value of a treatment technique for a particular subgroup.

Social Skills Training

Although social skills training is well supported as an effective adjunct to other alcoholism treatment modalities, little information is available regarding the characteristics of optimal candidates. Some studies have preselected alcoholics deficient in social skills, thereby removing variance of potential predictive value (e.g., Adinolfi, McCourt, & Geoghegan, 1976; Ferrell & Galassi, 1981). Others have not explored differential benefits in relation to pretreatment social skill level, perhaps because of the large main effect of treatment (e.g., Chaney, O'Leary, & Marlatt, 1978; Freedberg & Johnston, 1978). Although it is logical that social skills training would have greater impact (on alcoholism) for clients with larger skill deficits in this area, this hypothesis remains to be tested.

Family Therapy

Studies of family therapy necessarily preselect clients on the basis of having a family willing to participate in treatment. That this is a significant selection factor is supported by Smith's (1969) finding of better outcome for alcoholics with wives willing to attend a treatment group. Cadogan (1973) reported more favorable outcome following family ther-

apy when the alcoholic was employed, showed little or no organic brain damage, was not psychotic, sought treatment early, and had a spouse who showed trust and acceptance at the beginning of treatment. Marital cohesion, however, has been found to be a predictor of outcome in other modalities as well (e.g., Orford, Oppenheimer, Egert, Hensman & Guthrie, 1976).

Community Reinforcement Approach (CRA)

One of the best supported and most complex treatment programs for alcoholism is the "community reinforcement approach" (CRA) (Azrin *et al.*, 1982; Miller, 1985c). The CRA seeks to make substantive changes in the client's life-style in order to increase social stability and reinforce nondrinking. Azrin *et al.* (1982) compared disulfiram compliance alone with disulfiram plus CRA. Among married clients these approaches were equally effective, suggesting no additive effect of CRA. Among single clients, however, disulfiram alone was significantly less effective than the combination. If one hypothesizes less social stability and greater life-style reliance on drinking within a single population, it is understandable that CRA might be of differential benefit.

Behavioral Self-Control Training (BSCT)

BSCT is a set of self-management approaches designed to teach moderate and problem-free ("controlled") drinking. Several studies have examined pretreatment predictors of the successful establishment of controlled drinking following BSCT. Although findings have been mixed (Elal-Lawrence, 1984), the most consistent predictors of favorable prognosis for controlled drinking have been lower duration and severity of drinking symptoms and problems (Edwards, Duckitt, Oppenheimer, Sheehan, & Taylor, 1983; Finney & Moos, 1981; Miller & Baca, 1983; Miller & Joyce, 1979; Orford, Oppenheimer, & Edwards, 1976; Polich, Armor, & Braiker, 1981; Popham & Schmidt, 1976; Smart, 1978; Vogler, Compton, & Weissbach, 1975; Vogler, Weissbach, Compton, & Martin, 1977). The implication is that BSCT may be a more effective approach with less severe problem drinkers. Orford and Keddie (in press), by contrast, found no relationship between severity of alcohol dependence and abstinent versus controlled drinking outcomes. Instead, they found that outcome was predictable from client beliefs about alcohol and alcoholism. Clients endorsing traditional disease conceptions of their alcohol problems tended to become abstinent, whereas clients rejecting tenets of a disease conception were more likely to attain moderation.

Summary

No general predictors of alcoholism treatment outcome have emerged, suggesting that prognosis involves an interaction of client and treatment variables. There seem to be neither "good prognosis" clients (without reference to type of treatment) nor "effective" treatments (without considering type of client).

Current data, though far from conclusive, suggest that adjunctive treatment techniques aimed at problems presumed to be related to or underlying alcoholism (e.g., depression, social skill deficit, anxiety) are most effective when the client manifests a significant level of the target problem. Offering such broad-spectrum approaches to an undifferentiated population is unlikely to result in a substantial increment in program effectiveness (e.g., Miller, Taylor, & West, 1980). With a selected population, however, these strategies may significantly prolong sobriety.

Predictor studies likewise point to certain predictor variables that may be of substantive value in selecting optimal treatment approaches. Problem severity and duration, for example, have been found to be positively correlated with A.A. attendance and success with disulfiram, but inversely related to the effectiveness of behavioral self-control training. This suggests that whereas one approach may be optimal for severe alcoholics, a quite different approach may be maximally effective with less severe problem drinkers (cf. Miller & Caddy, 1977).

This leads us to the final major section of this chapter: a survey of research on differential predictors of outcome.

DIFFERENTIAL STUDIES

The differential research strategy in matching research examines the utility of particular client characteristics in predicting the relative probability of success in alternative approaches. Two or more different intervention methods are compared in the search for discriminative predictors of outcome. Whereas for predictor studies we summarized findings by treatment method, here we will present current knowledge according to specific matching variables that have appeared promising.

Problem Severity

Severity of problem can be defined in a variety of ways including, (a) severity of current or cumulative consequences of drinking, (b) level of alcohol consumption, (c) severity of current or cumulative signs of

alcohol dependence, or (d) problem duration (cf. Horn, Wanberg, & Foster, 1974; Miller & Marlatt, 1984; Polich *et al.*, 1981). Gross measures of problem severity (e.g., Selzer, 1971) often confound these dimensions, which are only modestly intercorrelated and cannot be considered to be interchangeable (Horn, 1978). Pomerleau and Adkins (1980), for example, found favorable outcome to be related to lower baseline alcohol consumption but longer problem duration.

As indicated earlier, controlled drinking outcomes (as contrasted with abstinent outcomes) have been associated in uncontrolled studies with lower pretreatment alcohol consumption, shorter problem duration, fewer consequences and symptoms of pathological drinking. The only two studies to assign clients at random to controlled drinking versus strict abstinence goals, however, have failed to yield strong differential predictors of outcome (Foy, Nunn, & Rychtarik, 1984; Sanchez-Craig, Annis, Bornet & MacDonald, 1984), and data from uncontrolled studies are not wholly consistent (Elal-Lawrence, 1984). Although in our opinion the data point to controlled drinking as an optimal goal for less severe problem drinkers, it would be premature to define strict indications or contraindications for treatment goals at this time (Marlatt, *et al.*, 1985).

Two research teams have provided data regarding the differential benefit of an intensive treatment approach with more severely impaired alcoholics. Orford, Oppenheimer, and Edwards (1976) reported 2-year follow-up data for clients assigned at random to either an intensive (inpatient hospital program, outpatient therapy, and medication) or a minimal (evaluation plus one session) intervention. Clients diagnosed at intake as gamma alcoholics (severe dependence with loss of control) fared better with intensive treatment and tended to become abstainers, whereas those diagnosed as alpha alcoholics (problem drinkers without dependence or loss of control) fared better if *not* given intensive treatment and tended to become moderate drinkers.

McLellan, Luborsky, Woody, O'Brien, & Druley (1983) employed a measure of "psychiatric severity" (McLellan, O'Brien, Kron, Alterman, & Druley, 1980) to predict outcome retrospectively from a variety of inpatient and outpatient programs. Relying on self-report measures at 6-month follow-up, they found that patients with high levels of problem severity fared equally poorly in inpatient and outpatient approaches, whereas at low levels of severity, patients did equally well regardless of treatment setting. Within the intermediate severity range, however (60% of patients), levels of other life problems (family, employment, and legal) showed complex relationships to outcome.

Pursuing these findings in a prospective study, McLellan, Woody,

Luborsky, O'Brien, and Druley (1983) attempted to match patients to treatments based on the data from their retrospective study. They succeeded in matching 53% of cases, with the rest mismatched because of refusal to accept treatment, assignment errors, clinical overriding of the match, or unavailability of the desired treatment slot. Because high severity patients had fared poorly in the earlier study, all patients with severe problems were classed as mismatched regardless of the treatment they received. This procedure, of course, created an artifactual bias favoring matched cases. With this bias removed (by excluding severe cases from analyses) significant differences remained between matched and mismatched cases on a multivariate analysis of covariance and 8 of 19 outcome measures. It must be recognized, however, that assignment to matching versus mismatching was nonrandom, and that outcome was judged from unverified self-report. Nevertheless the work of the McLellan team represents a methodological advance in research on client-treatment matching.

Taken together, these studies present an inconsistent picture. Uncontrolled predictor studies point to more favorable outcomes of low severity clients in moderation-oriented treatment, but two studies employing random assignment to moderation versus abstinence goals have failed to confirm this. Retrospective data from the Orford, Oppenheimer, and Edwards (1976) investigation suggest a more favorable prognosis for severely dependent persons in intensive treatment, whereas retrospective data from McLellan, Luborsky, *et al.* (1983) point to poor outcome in this group regardless of treatment locus. It may be that the Orford, Oppenheimer, and Edwards cohort, which was required to have an intact family, may resemble the middle-severity group of the McLellan, Luborsky, *et al.* study, in which case these findings could be seen as more similar. Unfortunately the severity measures employed in these two studies do not overlap. At most, then, there is a suggestion of a matching interaction between problem severity and treatment intensity.

Cognitive Style

Another type of predictor variable that appears promising has to do with a client's "cognitive style," by which we mean relatively enduring patterns of perception and information processing that the person evidences in a broad range of situations. This is, we note, very similar to the definition of "personality" adopted by Hall & Lindzey (1970).

One such client characteristic that has been widely studied is Rot-

ter's (1966) construct of internal versus external locus of control. Externals on this dimension tend to perceive their lives as being largely controlled by forces beyond their own influence (luck, fate, powerful others), whereas Internals view themselves as efficacious and responsible in determining what happens to them. Most studies to date linking locus of control to differential outcome have been correlational in design, and have suggested that Internals fare better with nondirective than with directive approaches (Abramowitz, Abramowitz, Roback, & Jackson, 1974), are less likely to accept disulfiram (Obitz, 1978), and participate less in aftercare (O'Leary, Rohsenow, & Donovan, 1976). All of these findings are consistent with a more self-directed approach for Internals. The only experimental study to date, however, failed to find an interaction between locus of control and directiveness of treatment (Schmidt, 1978).

Some of the strongest matching effects in the literature have been found with regard to a cognitive style dimension often referred to as "conceptual level" (CL). Clients with a low CL (e.g., preference for simpler rules and fewer constructs, dependence on authority) are hypothesized to be optimal for highly structured directive approaches that stress adherence to rules and minimal self-direction. By contrast, those with a *high* CL (e.g., independent, complex thinkers) are predicted to be optimal for less structured nondirective approaches emphasizing personal control. McLachlan (1972) studied the effectiveness of directive versus nondirective therapeutic approaches with high versus low CL clients. Matched cases (high CL with nondirective and low CL with directive therapist) reported greater *perceived* benefit, change, and satisfaction with their treatment than did mismatched cases. (Matching was determined post hoc rather than by intentional assignment.) More importantly, when recovery rates were derived from collateral reports at 12- to 16-month follow-up for these same 92 clients, 70% of matched cases versus 50% of unmatched cases were rated as recovered (McLachlan, 1974). McLachlan also examined CL in relation to style of aftercare provided: The city dwellers were offered weekly aftercare meetings (structured), whereas out-of-town patients received only a letter encouraging them to write to other patients (unstructured). (The confound with place of residence must be noted.) Matched cases (high CL in unstructured and low CL in structured) showed 71% recovery, versus 49% recovery in unmatched cases. When both treatment and aftercare style were considered, the separation was even greater. Patients appropriately matched to treatment *and* aftercare style showed a 77% recovery rate. Rates for patients matched on treatment alone (65%) or aftercare alone (61%) were intermediate and well above those for patients mis-

matched to both (38%), suggesting that either appropriate treatment or appropriate aftercare may improve long-term outcome. Although treatment assignment was nonrandom, there were no apparent biases in assignment of cases to treatments. An unfortunate weakness of the McLachlan study is the relatively crude outcome measure, a 4-point rating scale completed by the aftercare physicians and counselors, other patients, and clinical secretaries. Finally, it is noteworthy that although there were strong interaction effects, no main effects of treatment or aftercare style were observed. Had McLachlan *not* separated patients according to CL, he would have been forced to conclude that directive and nondirective styles of treatment were equivalent in effectiveness. This underlines the potential importance of matching in clarifying the therapeutic impact of specific interventions.

Thornton, Gottheil, Gellens, and Alterman (1977, 1981), in retrospective prediction of outcome, studied the relationship of posttreatment drinking pattern (assessed by unverified patient questionnaires) to "developmental level" (DL), a construct measured from Rorschach responses and conceptually similar to CL. They reported that although high and low DL patients did not differ with regard to the percentage achieving abstinence at 6-month follow-up, high DL patients were more likely to achieve moderate drinking, whereas low DL drinkers drank more frequently and more heavily following treatment.

Karp, Kissin, and Hustmyer (1970) studied a related dimension of cognitive style: field dependence. They found that alcoholics selecting and selected for psychotherapy were highly field independent, and further that this predictor discriminated dropouts within treatment modes. Clients who dropped out of psychotherapy were significantly more field dependent than those who remained. For drug therapy, by contrast, dropouts were slightly (not significantly) more field independent. When the treatment modes were combined, field dependence failed to discriminate dropouts from those continuing. Once again, outcome prediction could not be divorced from the particular nature of the intervention. Similar findings have been reported by Kissin *et al.* (1970).

Taken together, these findings suggest that certain clients may evidence a cognitive style (external control, low CL, low DL) which renders them optimal candidates for more directive and structured treatments, whereas others (internal control, high CL, high DL) may respond more favorably to less structured and more self-directed approaches. This is consistent with correlational data reviewed earlier, indicating that affiliates of Alcoholics Anonymous show higher authoritarianism, dependency, affiliation, field dependence, and reliance on external sources of aid (all plausible correlates of low CL).

Neuropsychological Status

Prolonged heavy consumption of alcohol is known to produce a characteristic pattern of brain impairment (Miller & Saucedo, 1983). Another logical candidate as a matching variable, then, is the degree of neuropsychological deficits. Greater neuropsychological impairment has been associated with less favorable overall outcomes (O'Leary, Donovan, Chaney, & Walker, 1979), but to date no treatment has been shown to be differentially effective for more impaired individuals. Walker, Donovan, Kivlahan, and O'Leary (1983) failed to confirm their hypothesis that patients with greater cognitive impairment would respond more favorably to longer and more intensive treatment. Rather, their findings resemble those of McLellan, Luborsky, *et al.* (1983), that higher levels of severity are associated with equally poor outcome regardless of treatment approach. The previously cited finding of Karp *et al.* (1970)—that alcoholism treatment dropout patterns are related to field dependence—is noteworthy here because field dependence has been shown to be a correlate of neuropsychological impairment in alcoholism (Miller & Saucedo, 1983). Thus even though intensity and treatment may not interact with impairment among treatment completers, it may be that clients with greater cognitive deficits may find certain types of treatment more appealing or comprehensible, and thereby attrition rates may be affected. Clearer conclusions must await further research (Wilkinson & Sanchez-Craig, 1981).

Self-Esteem

Research on motivation for treatment points to self-esteem as a potentially important factor in determining treatment acceptance and perseverence (Miller, 1985b). To our knowledge, however, only one study has examined differential efficacy of treatments based on client self-esteem level. Annis & Chan (1983) randomly assigned alcohol-related offenders undergoing institutional care either to receive or not to receive a highly confrontational group therapy intervention. Neither treatment nor client type produced a main effect: high and low self-esteem clients fared equally well overall, and the group therapy made no significant difference. Consistent with the matching hypothesis, however, a significant interaction effect appeared, such that high self-esteem clients fared better if they received the group treatment (outcome assessed by reconvictions), whereas clients with low self-esteem showed a detrimental effect of the group and fared better without it.

Social Stability

Clients with stable family, residence, and employment are often reported to have more successful outcomes overall (Adinolfi, DiDario, & Kelso, 1981; Armor, Polich, & Stambul, 1978; Gerard & Saenger, 1966; Gibbs & Flanagan, 1977; Orford, Oppenheimer, Egert, *et al.*, 1976), but are there treatments that are differentially beneficial to clients with low (or high) social stability? Married and employed clients have been reported to be more likely to establish controlled drinking outcomes than less socially stable individuals (e.g., Levinson, 1977; Smart, 1978), but controlled studies have failed to confirm this finding. Azrin *et al.* (1982) found that a broad-spectrum community reinforcement approach increased the effectiveness of treatment for unmarried but not for married clients, suggesting that a broader life-style intervention may differentially benefit clients without a stable family situation.

Other Life Problems

Therapists have observed that treatment focused exclusively on alcoholism may be less effective with clients who show broader problems and pathology (McLellan, Luborsky, *et al.*, 1983; Miller, Pechacek, & Hamburg, 1981; Orford, Oppenheimer, Egert, *et al.*, 1976). The implication (which might be termed the "broad-spectrum matching hypothesis") is that clients with broader problems could benefit differentially from broad-spectrum treatments that address not only alcohol consumption but other specific problem areas as well. This hypothesis may explain why comparative studies with undifferentiated populations of problem drinkers have found little or no advantage in broad-spectrum approaches over alcohol-focused treatment (Alden, 1978; Miller *et al.*, 1980; Vogler, Weissbach, Compton, & Martin, *et al.*, 1975; 1977).

Support for the broad-spectrum matching hypothesis is found in studies pointing to the differential effectiveness of relaxation training for anxious alcoholics (Rosenberg, 1979) and of a community reinforcement approach for unmarried alcoholics (Azrin *et al.*, 1982). Other investigators have reported favorable (though not differential) response of depressed alcoholics to lithium (Merry *et al.*, 1976), of unassertive alcoholics to assertion training (Ferrell & Galassi, 1981), and of socially unskilled alcoholics to social skills training (Adinolfi *et al.*, 1976). Other correlational data indicate a less favorable response to very alcohol-focused interventions, such as Alcoholics Anonymous (Gerard *et al.*, 1962) and disulfiram (Baekeland *et al.*, 1971; Bowman *et al.*, 1951) when other major psychopathology is present.

These data point toward a very sensible though necessarily tentative conclusion: that alcoholics will benefit from additional treatment to

the extent that they manifest the problem that the treatment effectively alleviates. Future research on broad-spectrum matching would best focus on problem-specific interventions for documented pretreatment deficits, rather than seeking differential benefit of all-purpose "shotgun" additions to alcohol-focused treatment.

Client Choice

Numerous writers have posited beneficial effects of participation by clients in the selection of their own treatment approaches (Costello, 1975; Ewing, 1977; Parker, Winstead, & Willi, 1979; Parker, Winstead, Willi, & Fisher, 1979). Predictive data indicate that clients who have (or at least perceive that they have) a voluntary choice about the goal and nature of their treatment show more favorable satisfaction (Vannicelli, 1978, 1979), compliance (Sanchez-Craig, 1980), and outcome (Thornton *et al.*, 1977) during and following the treatment process (cf. Miller, 1985b). In an experimental study, Kissin, Platz, & Su (1971) assigned patients at random to be offered three, two, one, or no alternative treatments for alcoholism. Individual patient characteristics proved to be poor predictors of either acceptance of or success in specific types of treatment. One half to two thirds of patients who were given a choice rejected the first treatment offered to them and opted for an alternative. Findings indicated that patients given a choice of treatment options showed greater acceptance of treatment and superior rates of recovery at 12-month follow-up. Success rates increased with the number of choices available to the client.

These findings suggest at least an interim practice until more substantial data on client–treatment matching become available: to involve clients directly in the choice of their own treatment. Through mechanisms of perceived control and intrinsic motivation, clients may show increased acceptance of, continuation in, and compliance with a treatment that they select themselves (Deci, 1975; Miller, 1983). Indeed, given adequate information about the alternatives, clients may be better than their therapists in selecting an optimal treatment approach. As more reliable information becomes available regarding differential probabilities of success in alternative treatment goals and strategies, such information can be shared with the client as part of the decision-making process.

Other Predictor Variables

Finally, we would point to a few other potential predictor variables that seem to us to be promising, although we know of no adequate data to support their usefulness in differential treatment choice. This is not

meant to be an exhaustive list, but rather a set of suggestions for further exploration.

Family history of alcoholism and other types of psychopathology would seem a logical candidate. Family history is often an important clue to differential diagnosis and treatment in other domains (e.g., the affective disorders), and numerous researchers have pointed to the plausibility of different types of alcoholism (Jacobson, 1976; Winokur, Reich, Rimmer, & Pitts, 1970; Winokur, Rimmer, & Reich, 1971). Miller and Joyce (1979) reported that problem drinkers with alcoholic fathers were more likely to abstain and less likely to sustain controlled drinking following behavioral self-control training. If indeed there are familial and nonfamilial types of alcoholism, differential treatment goals and strategies may be optimal for them.

Alcohol dependence is another clear candidate for exploration as a differential predictor variable. Although we have speculated that level of dependence may predict success in controlled drinking versus abstinence goals (Miller & Caddy, 1977; Miller & Hester, 1980), predictive studies to date have focused instead on problem severity, a dimension modestly correlated with severity of pharmacologic addiction. Orford and Keddie (in press) found no relationship between severity of dependence and outcomes of moderation versus abstinence. We hope that future clinical trials will assess differential treatment outcome against valid measures of physical dependence.

Various predictors may be of particular utility in evaluating the probable effectiveness of conditioning therapies (e.g., covert sensitization). Because the establishment of a conditioned aversive response is predictive of success (Elkins, 1980; Miller & Dougher, 1985), pretreatment predictors of conditioning may be helpful. These might include conditionability measures, hypnotic susceptibility, or imagery vividness. Likewise, because a goal of aversion therapies is to reduce desire for alcohol, these procedures may be particularly helpful for clients who report strong cravings or urges.

Finally, new theoretical and psychometric developments in the addictive behaviors may point to robust predictors of differential outcome. The well-constructed Alcohol Use Inventory (Horn *et al.*, 1974) was derived by extensive factor analytic research into crucial dimensions of alcohol abuse, and its scales provide low-cost and promising tools for differential treatment choice. The "stages of change" model recently introduced by Prochaska and DiClemente (1983; cf. Chap. 1 in this volume) proposes measurable steps through which clients pass in the process of change, and the model poses specific predictions regarding which interventions would be optimal at each stage. Apter's provocative theory of psychological reversals (Apter, 1982; Miller, 1985a) may yield

diagnostic and psychometric methods useful in matching patients to treatments.

SUMMARY

Although alcoholism treatment approaches do show evidence of substantial differences in characteristic success rates (Miller & Hester, 1980), a more appropriate topic for future research may be the interaction of client and treatment characteristics in facilitating recovery. Multivariate studies indicate that there is indeed substantial shared variance between client and treatment factors (Cronkite & Moos, 1978). It must also be recognized that posttreatment experiences of clients are likely to account for at least as much variance as pretreatment and treatment characteristics (Finney, Moos, & Mewborn, 1980).

The matching hypothesis proposes that clients who are matched to appropriate treatments will show greater improvement than will those who are unmatched or mismatched. The criteria for such optimal matching, however, are far from clear at present. A few conclusions that can be drawn from the data presently available are the following:

1. The degree of differential benefit from a broad-spectrum intervention depends upon the degree to which the problem drinker manifests the life problem or deficit for which the additional intervention is an effective treatment.

2. Clients show greater improvement when matched with a treatment that is congruent with their cognitive style, relative to clients who are unmatched or mismatched.

3. Clients with more severe alcohol-related problems benefit differentially from more intensive (though not necessarily inpatient) treatment, whereas clients with less severe problems benefit at least as much if not more from a minimal intervention.

4. Clients who choose their treatment approach from among alternatives show greater acceptance of, compliance in, and improvement following treatment, relative to clients offered only a single program or approach.

Given the limited research available at present, however, these are best regarded as tentatively supported hypotheses in need of further verification. Future research will likely confirm some degree of truth in these assertions, but also reveal them to be overly simplistic.

A few points of methodology are warranted here as advice to prevent repetition of past errors in future studies. All have to do with clear specification and operationalization of terms. First, the predictor variables in a matching study should be small in number (due to usual

limitations of multivariate analyses with smaller samples), carefully selected on empirical or theoretical grounds, and measured in a manner that facilitates replication in research and clinical settings. Gross measures of "alcoholism" or "severity" that confound different types of impairment should be avoided in favor of more specific dimensions that will clarify the interactive processes involved in matching. An exemplary instrument is the Alcohol Use Inventory (Horn *et al.*, 1974), which was developed by factor analysis to represent orthogonal domains within diverse problem drinking populations. The subscales of this instrument appear particularly promising for purposes of individualized treatment planning.

Secondly, treatment procedures should be specified and differentiated as clearly as possible. A comparative study of two global multicomponent programs may, for example, be less informative than a comparison of the same program with and without one clearly described additional component which is offered to a random sample of program participants. Matching data will be of little use if the nature of matched treatments is vague.

Finally, a matching study with well specified predictor variables and clearly differentiated treatments can be rendered uninterpretable if the criteria for improvement are inadequate. Client self-ratings of satisfaction, perceived helpfulness, or change are insufficient bases for judging treatment impact. Alcohol consumption during follow-up should be carefully quantified, rather than recorded as merely present or absent. Alcohol-related problems and signs of dependence should also be monitored (Polich *et al.*, 1981). Verification of self-report by collaterals is desirable (e.g., Miller, Crawford, & Taylor, 1979) although outcome should not be judged by collateral report alone. Follow-up interviews and interviewer ratings should be completed, whenever possible, by staff who are blind to client treatment assignment. Immediate posttreatment status is not a reliable indicator of long-term impact of an intervention, and a minimum of 6 to 12 months of posttreatment follow-up should be completed with at least 80% of treated cases (or with a random, representative sample in larger studies).

Although most treatment programs now acknowledge the importance of matching and individually tailoring treatment to client characteristics and needs, we still have a very long way to go toward achieving this goal. The standard formula approach to treatment must be abandoned in favor of offering a range of real and accessible alternative approaches. Private financial interests of treatment providers favor the assignment of a maximal number of patients to intensive and expensive programs, and in the United States this is likely to be a substantial barrier to optimal matching (Hansen & Emrick, 1983). Much more pre-

dictive, differential, and modeling research is needed to provide an adequate empirical data base from which to make competent treatment recommendations.

Meanwhile it would seem that the most ethical (and perhaps also the most effective) approach to alcoholism treatment matching is one of consumer advocacy: to provide individuals with full and accurate information about the nature and effectiveness of the alternatives available to them. Neither the bureaucracies of public treatment systems nor the competition of for-profit private providers has yet even begun to enable clients to make such informed choices about their own treatment.

Caveat emptor!

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9

Early Intervention with Problem Drinkers

GEIR BERG AND ARVID SKUTLE

Early-stage problem drinkers have received relatively little attention from either researchers or clinicians even though they are in the majority compared to those fitting diagnostic criteria for alcoholism or alcohol dependence. The reasons for their being ignored are many. Among them are the following:

1. There are no standard screening instruments or procedures for identifying early-stage problem drinkers.
2. "Either/or" thinking still dominates among professionals: "You are either an alcoholic or not." The alternative, defining different degrees of alcohol dependency, is missing.
3. The general attitude towards alcoholics and problem drinkers is negative and stigmatizing. Many professionals are frustrated by these groups and pessimistic about their prognosis.
4. Most of the treatment centers for alcoholics are not attractive enough to the early-stage problem drinker because of their dependence on total abstinence as sole treatment goal.
5. Once identified and recruited, the practitioners' competence to treat the problem drinker are, in many cases, not adequate. There is a

GEIR BERG AND ARVID SKUTLE • The Hjellestad Clinic, Hjellestad, Norway. The material in this chapter is taken from a paper presented at the Third International Conference on Treatment of Addictive Behaviors, North Berwick, Scotland, August 12 to 16, 1984.

need for special training programs for the professionals who would treat problem drinkers.

The present study is an evaluation of four behavioral treatment methods with 48 self-referred early-stage problem drinkers. The treatment took place at out outpatient unit at Hjellestad-Klinikken. The study was conducted in Bergen in 1983 to 1984. The following questions were raised:

1. Is it possible to recruit and motivate problem drinkers for participation in an early intervention program? Until now this has not been done systematically in Norway.

2. If so, which of four intervention methods, varying in content and cost, is the most effective in attaining the intervention goal?

In terms of the Prochaska and DiClemente model (1982), the question is how to motivate contemplators to make a decision and take action, to participate in the treatment program and reduce their alcohol consumption.

In the study the following treatment programs were used.

- Group 1: bibliotherapy based on behavioral self-control training. The basic elements of this program are described in the book *How to Control Your Drinking* (Miller & Muñoz, 1982). (2 group sessions × 2 hours = 4 hours.)
- Group 2: behavioral self-control training with therapist-administrated group sessions. The content is based on the same reference as mentioned for Group 1, but the setting is different. (6 group sessions × 2 hours = 12 hours.)
- Group 3: training in coping skills. This method is a modified version of the Relapse Prevention Program (Chaney, O'Leary & Marlatt, 1978; Marlatt, 1980). (6 group sessions × 2 hours = 12 hours.)
- Group 4: a combination of behavioral self-control training and training in coping skills. (8 group sessions × 2 hours = 16 hours.)

The four intervention methods were given to four groups of clients. Because of ethical concerns and because the question was which of the four treatment methods would be most effective, no untreated control group was included.

METHOD

A Motivational Approach

During all contact with the clients the therapists (the authors) tried to avoid a moralistic attitude, which is characterized by blaming the

client for his or her drinking behavior and by creating guilt and feelings of personal insufficiency. The clients were not treated as helpless victims suffering from an "alcoholic disease," without individual responsibility and positive resources. As an alternative we adopted an empathic therapeutic style that we presumed had a more motivational effect on the clients (Miller, 1983). The motivational approach is characterized by the following features:

1. A de-emphasis on labeling. Instead of the terms *alcoholic* and *alcoholism*, "different degrees of dependency" and "problems related to drinking" were used;

2. Individual responsibility. The clients were provided with assessment information, but it was up to the clients to decide if there were any problems and what to do with them. The therapist clarifies options, but the client makes the decisions.

3. Internal attribution. The client is not assumed to be a helpless victim of external events. He or she is in control of the situation and is able to reduce alcohol consumption with adequate counseling. Progress is attributed to the client's own efforts.

4. Cognitive dissonance. By informational feedback of the assessment results to the client, an inconsistency between emotions–attitudes and behavior is produced. A motivational condition is created and the next stage is to restore consistency through behavior change.

Recruitment of Clients

Clients were recruited through a local newspaper announcement and through a presentation of the project plans in the same newspaper and on the local radio. Newspaper announcement has been found to be an effective way of recruiting subjects for early treatment programs (Duckert, 1982; Miller, Taylor, & West, 1980; Pomerleau, Pertscuck, Adkins, & Brady, 1978; Sanchez-Craig, Wilkinson, & Walker, 1984; Vogler, Weissbach, & Compton, 1977). The response was very positive. Within one week the four groups were filled. In 83% of the cases the contact was established on the basis of the newspaper announcement. All the clients were self-referred.

Screening and Group Assignment

After a short telephone orientation with clients about the program, a 45-minute screening interview was conducted. Because the target group was early-stage problem drinkers, all severely dependent subjects were excluded from the study. This was the case for two subjects, who were referred to the outpatient unit at Hjellestad-Klinikken. Other crite-

ria for exclusion from our study were, (a) pregnancy, (b) previous treatment for alcoholism, (c) diagnosis (DSM-III) of alcohol idiosyncratic intoxication, (d) history of withdrawal delirium, (e) dependency on other drugs, (f) evidence of liver damage, (g) a self-reported duration of problem drinking in excess of 10 years, or (h) medical illness. *Severe dependence* was defined as increased tolerance for alcohol with severe withdrawal symptoms.

During the screening interview, clients were informed about the program and signed a statement of informed consent to participate. All clients with collaterals gave us permission to interview the collaterals, for which they signed another statement of informed consent. The assignment of the final 48 clients to the four groups was random, based on a table of random numbers. Each group had 12 clients.

Assessment

The assessment instruments were the following:

1. *The Comprehensive Drinker Profile*, developed by Marlatt and Miller (1984). This is a standardized interview including questions on demography, the Michigan Alcoholism Screening Test and other alcohol-related questions. In the follow-up interviews we used a shorter version.
2. *The Severity of Alcohol Dependence Questionnaire*, developed by Stockwell, Murphy, and Hodgson (1979), measured the degree to which clients were experiencing the syndrome of alcohol dependence.
3. *Symptom Check List 90 (SCL-90)*, Derogatis, Lipman, & Covi (1973), a well-known personality questionnaire.
4. *High Risk Situation Questionnaire*, measuring the client's perceived ability to cope with high-risk situations. The questionnaire is based on the Situation Difficulty Questionnaire by Chaney, O'Leary, & Marlatt (1978). Forty-eight more typically Norwegian situations are selected, for example: how difficult is it to pass the spirits- and wine-monopoly-shop [that we have in Norway] on the way from the job Friday afternoon without entering the shop and buying a bottle?

Treatment

A group treatment format was chosen because of the mutual support among group members it provides and the possibilities of discussion and role playing. The authors served as the group leaders. In addition, group format was preferred because of low cost and relatively high effectiveness compared to an individual format, as documented by Miller and Taylor (1980).

Group 1: Bibliotherapy (BSCT)

The bibliotherapy group received two group sessions: one introductory session and one final assessment session. In between, they received weekly materials from us, including a self-help manual and a supply of self-monitoring cards. The content of the manual was as follows:

Session 1. Goal Setting and Self-Monitoring. The clients set a concrete and realistic goal toward which progress could be measured. To monitor the strength of ethanol in different alcohol beverages, a Standard Ethanol Content (SEC) or standard "one-drink" unit was used. One such unit contains 0.5 oz or 15 ml pure ethanol,—for example the ethanol content of either 10 oz of 5% beer, one glass or 4 oz of 12% table wine, one glass or 2.5 oz of sherry (20%), or one glass or 1 oz of 50% whisky. Clients were provided with self-monitoring cards which could increase their awareness of their actual alcohol consumption and provided a record of progress.

Session 2. Controlling Drinking Rate. Clients were encouraged to reduce their drinking rate, for example by switching to a less preferred beverage, slowing the pace of drinking by increasing number of sips per drink and by avoiding gulping, and refusing unwanted drinks.

Session 3. Self-Reinforcement. In this session clients learned to reinforce progress with a material reward or by self-reinforcement, for example by saying, "so far I have done well."

Session 4. Functional Analysis. The purpose of the functional analysis was to identify antecedents of overdrinking and high-risk situations and to find coping strategies, either by avoidance of the problem situations or by encountering and handling the situations better.

Session 5. The Meaning of Drinking. Clients were encouraged to determine the meaning of drinking for them and "new roads" from antecedents of drinking to the pleasant effects that alcohol usually gives them, but this time without alcohol. For example: "I shall not have a drink or two in order to be accepted by my friends. Instead I shall be more assertive and say 'no thanks' to unwanted drinks." In this way psychological dependence on alcohol can be reduced.

Session 6. Final Assessment. The main purpose of this session was to evaluate a client's progress through the program and to consider relapse strategies. Clients were provided with a list of DO's (to use) and DON'Ts (to avoid).

Group 2: BSCT-Therapist Directed

This group received BSCT in groups during 6 sessions. The content of the treatment was the same as that described above.

Group 3: Training in Coping Skills

The main purpose of this group was to identify high-risk situations, that is, situations that involve overdrinking, and to teach clients to cope with them, for example by role playing. The method is based on a modified version of Marlatt's relapse prevention model (Cummings, Gordon, & Marlatt, 1980). It was emphasized, to increase their awareness of the decision stage, that overdrinking to a large extent was a result of their own decisions and behavioral responses. Another component of this method was relaxation training. After a short presentation of the techniques in the group, clients received an audio casset with a relaxation program for rehearsals at home.

Group 4: A Combination of BSCT and Coping Skill Training

The purpose of this group was to see if treatment beyond BSCT would have any effect. After the 6 BSCT-sessions, clients had 2 additional sessions with special training in coping skills.

Groups 1, 2, and 4 received a very didactic, educational, and standardized treatment format whereas Group 3 was more open to individual initiatives and benefitted more from "group process," that is, the expression of emotions and personal attitudes, interpersonal feedback, and a higher activity level among the clients during the sessions.

Follow-Up Assessment

Interviews with the clients were conducted at 3, 6, and 12 months following treatment termination, and with collaterals at 6 and 12 months.

RESULTS

Client Attrition

The number of excluded clients, no-shows and dropouts were relatively low. After the screening interview 2 clients were excluded. Of the remaining 48 clients, one did not show up at the start of treatment. During treatment 4 clients attended less than 50% of the sessions. They were categorized as "not treated" and were excluded from the follow-up interviews. During the follow-up one person was lost.

Pretreatment Measures

The majority of the clients were married, middle-aged men (see Table 1). There were no significant differences among the four groups on income or years of education. Because of a 72-year-old man in Group 2, there was a significant difference in age between Group 2 and the three others.

Alcohol Consumption

Figure 1 shows the changes in alcohol consumption from intake to 3-, 6-, and 12-month follow-up. Consumption was measured in SECs (Standard Ethanol Content or Standard Units) per week. There were no significant differences among the four groups at either intake or follow-up points. The differences in consumption from intake to follow-up at 3, 6, and 12 months however, were significant within all four groups (p values range from .0001 to .035). Results at 3-month follow-up are predictive of status at later points.

All clients had done self-monitoring by using special cards every

Table 1.
Demographic Data

Groups:		1	2	3	4	All
Sex	Male	10	8	7	9	34
	Female	1	2	4	2	9
Age	*Mean*	38	49	44	40	43
	Range					29–72
Marital status	Single, never married	1	0	1	1	3
	Married	7	7	7	6	27
	Separated	1	1	0	2	4
	Divorced	2	2	3	2	9
Years of education	*Mean*	12.5	13.3	12.7	13.6	13
	Range					7–20
Employment	Worker	5	4	3	3	15
	Supervisor	0	0	2	3	5
	Officer	5	3	4	4	16
	Employer	1	2	2	1	6
	Retired	0	1	0	0	1
Family income in US dollars	6,250–12,500	1	2	2	1	6
	12,500–18,750	3	2	4	5	14
	18,750–25,000	2	2	1	1	6
	25,000–31,250	3	1	1	2	7
	31,250–37,500	2	3	2	1	8
	>37,500	0	0	1	1	2

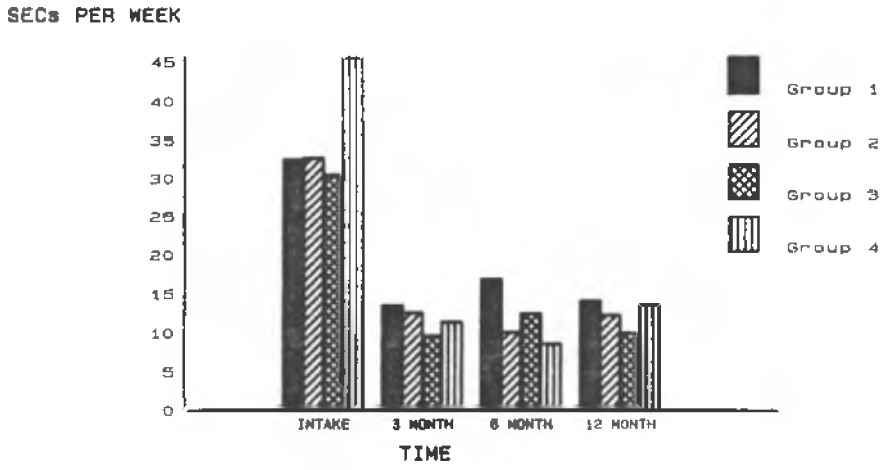

FIGURE 1. Weekly alcohol consumption.

week during treatment. The self-monitoring data (Figure 2) show that the drop in consumption had already taken place by the week after start of treatment. At this point subjects had done self-monitoring for one week. The changes are significant within all groups, and there are no significant differences among groups. This pattern is strikingly similar to American data reported by Miller (1978; Miller & Taylor, 1980; Miller,

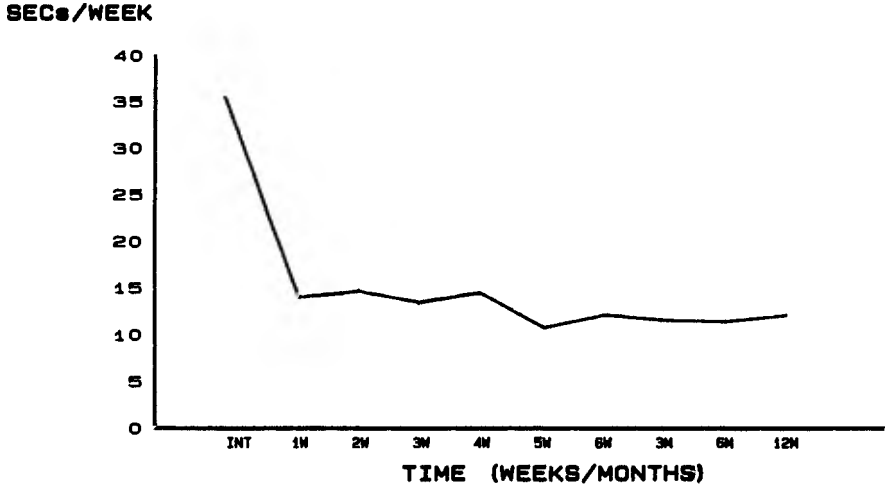

FIGURE 2. Weekly alcohol consumption (with self-monitoring during the treatment period).

Taylor & West, 1980). After this initial drop, weekly consumption remains stable through treatment and the three follow-up periods (Figure 2). The decrease in alcohol consumption took place before the treatment programs started. This could mean that a decision was made to reduce drinking in this early and important phase.

At intake (baseline) a majority of the clients, that is, 51% (23 clients), had a mixed drinking pattern (Figure 3). A *mixed drinking pattern* or combination pattern drinking means a pattern whereby a person drinks at least once per week with a regular weekly pattern, but also has heavier episodes deviating from the typical pattern by at least 5 SECs within one day. It was especially on the weekends that these subjects had heavy drinking episodes. This is a typical Norwegian way of drinking. Fifteen clients (36%) had a regular drinking pattern (defined as drinking at least once per week and about the same amount every week without periodic episodes of heavier drinking). Five clients (13%) had a periodic drinking pattern (defined as a client drinking less often than once a week, and being abstinent between drinking episodes). Drinking patterns changed from intake to follow-up, and there are only small differences from 3 to 12 months (Figure 3). At one-year follow-up the largest group of subjects were no longer regular pattern drinkers with a concentrated consumption on the weekends, but were periodic drinkers using alcohol less often than once a week, and were abstinent between drinking episodes.

Another way to analyze drinking behavior is to divide weekly alcohol consumption into categories (see Figure 4). At intake more than 53%

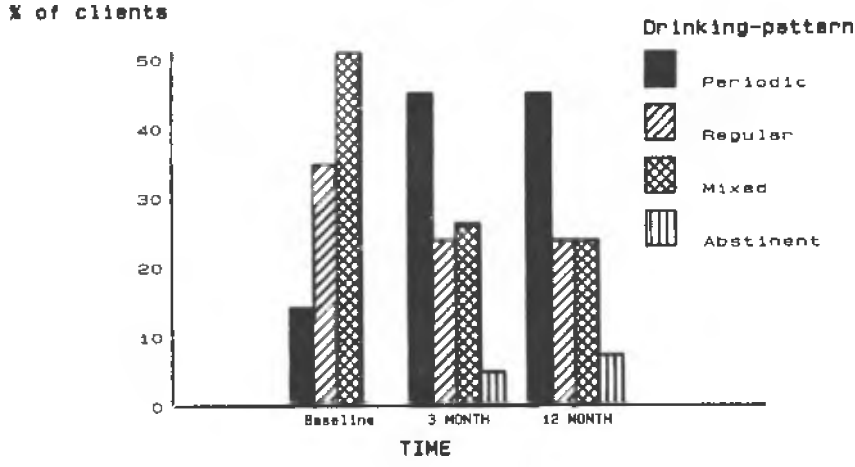

FIGURE 3. Drinking patterns.

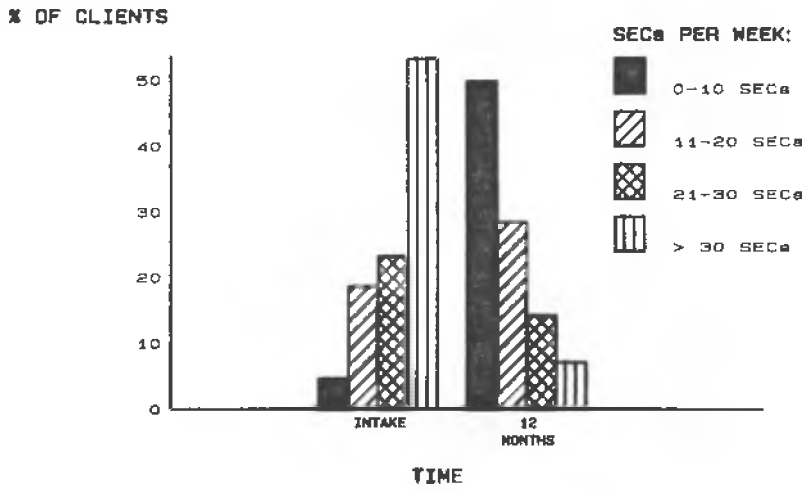

FIGURE 4. Distribution of alcohol consumption (SECs per week).

(23 clients) of the clients drank over 30 SECs per week. (That is about 1.5 bottles, or 110 cl, of 80 proof whisky or vodka). By contrast, at one-year follow-up exactly half (21 clients) were drinking 10 SECs (0.5 bottle) or less per week. If 20 SECs per week or less, that is, a consumption within Categories 1 and 2 (one bottle or 70 cl of 80 proof vodka), is accepted as safe or acceptable drinking, 78.5% (33 clients) of the clients reached this goal at the one-year follow-up. At intake only 23.2% (10) of them drank 20 SECs or less per week.

All nine clients in Group 3 who drank above 20 SECs at intake reduced their consumption below that level one year later. The figures for the four groups are presented in Table 2. The total mean reduction for all clients (from intake to one-year follow-up) was 64%. The reduction in consumption within each group are presented in Table 3.

TABLE 2.
Number of Clients Drinking More Than 20 Secs Per Week

Group	At intake	At 12-month follow-up
1	7	4
2	7	2
3	9	0
4	10	3

TABLE 3.
Percent of Group Reduction in Alcohol Consumption

Group	% Reduction
1	57
2	63
3	67
4	70

PROBLEMS RELATED TO DRINKING

The Michigan Alcoholism Screening Test is a part of the Comprehensive Drinker Profile and was administered at intake and at follow-up. The questionnaire measures two variables, problems related to drinking (Mast) and physical dependence (Ph). Figure 5 shows the percent of clients in each of the four MAST score categories. Scores at intake were based on the total life span of the clients, but the one-year follow-up scores related to the 3 months prior to interview. At intake 56% (24 clients) had scores within Category 3 (indicating significant life problems related to alcohol). At one-year follow-up the percentage within the same category was 12 (5 clients). At one-year follow-up 69% (29 clients)

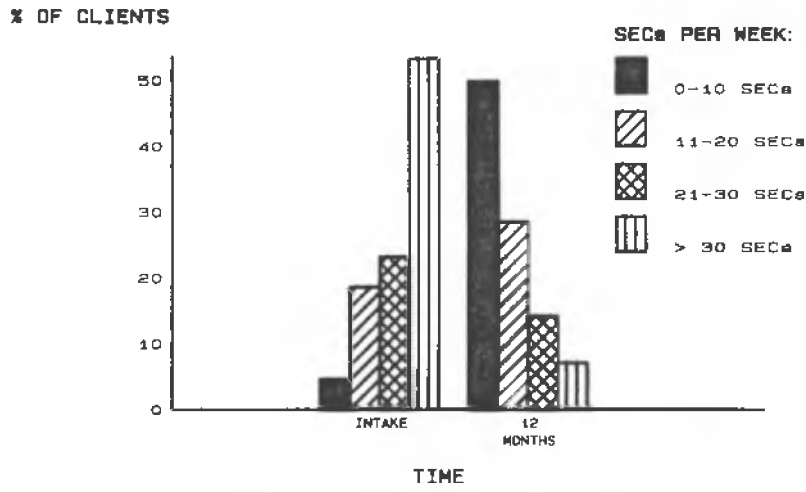

FIGURE 5. Distribution of MAST scores.

had scores within Category 1 (indicating no or mild problems with drinking).

Scores on physical dependence showed a similar pattern (Figure 6). Intake scores on PH reflected experience from the total past, whereas one-year follow-up scores were based on the last 3 months. At intake we can see that 70% (30 clients) had scores in Category 2 (significant symptoms of physical dependence). 21% (9) fell into Category 1 (mild symptoms of alcohol dependence). At one-year follow-up 93% (39) had scores in the lowest category. Seven percent (2) had scores in Category 2, and no one was in Category 3 (more serious dependence on alcohol). One person did not show a reduction in Ph values from intake to the one-year follow-up.

There have been some differences in views on the question of whether or not a reduction in alcohol consumption leads to a reduction in life problems. By using the intake and parallel follow-up interviews, in which questions about significant life problems were asked, it was possible to analyze this issue (Figure 7). There were no significant differences among groups, but within each group the differences were significant from intake to the 3- and the 12-month follow-up (the results at 6 months were almost identical to those at the one-year follow-up). Only three clients (from different groups) did not report a reduction in life problems. The mean number of life problems for all clients decreased from 6.3 (at intake) to 2.2 (at one-year follow-up). At the 12-month follow-up, 64% (27 clients) reported no problems related to drinking, whereas all had reported such problems at intake.

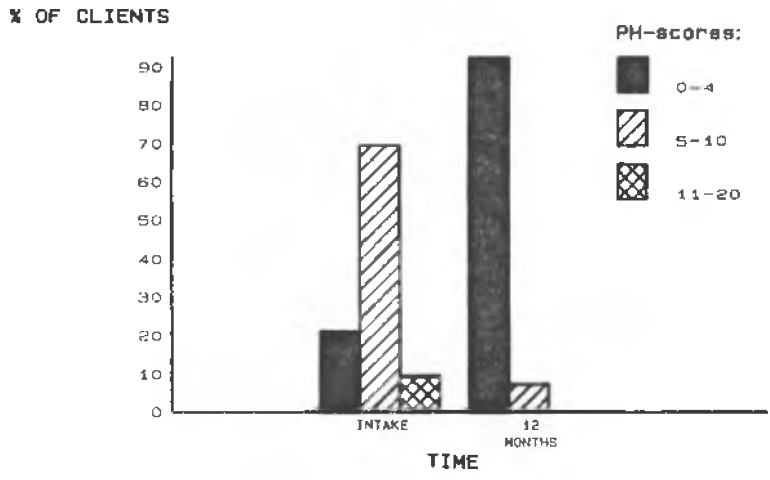

FIGURE 6. Distribution of PH scores.

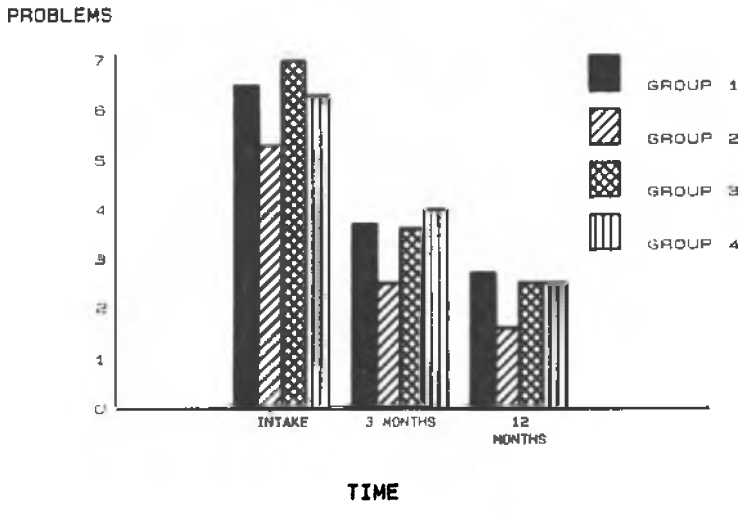

FIGURE 7. Life problems.

High-risk situations, factors that could increase the probability of heavy drinking in a particular situation, were assessed too (Table 4). At intake most subjects had an "internal" or intrapersonal high-risk situation, but at one-year follow-up most of them reported an "external" or interpersonal factor as their high-risk situation. Thirteen clients did not report any high-risk situation at the 12-month follow-up.

In the statement of informed consent that all subjects completed there was an agreement with the clients that, if necessary (e.g., in a crisis), they could make contact if they needed help. Four clients in

TABLE 4.
High-Risk Situations (H-R-S)

I. At intake
- 30% (13 clients) reported no high-risk situation. (There is a small change compared to one-year follow-up).
- Most of them, that is, 42% (18), reported that a negative emotional state (depression, anxiety, boredom, etc.) could lead to problems.
- 16% (7) reported craving for alcohol as a high-risk factor.

II. At 12 months follow-up
- 45% (19) now reported that a positive emotional state together with other people is the most important H-R-S.
- The decrease in the number of clients reporting a negative emotional state as a H-R-S, 12% (5), is also obvious.

Group 1, one client in Group 2, one in Group 3, and two clients in Group 4 had contact with us, either by telephone or personal contact. One client in Group 1 and one in Group 3 received treatment elsewhere (our own outpatient unit and local detoxification center). In total, we had contact with 8 clients or 19% of them, and Group 1 (the bibliotherapy) received the most help.

In the follow-up interviews the clients did self-evaluation with regard to alcohol consumption. Most (60%) said they were drinking much less, one third (33%) said they were drinking less, 5% reported drinking the same, and one client indicated an increase in consumption. In spite of the fact that 93% reported drinking less, 65% still wanted to reduce their drinking even more.

Collateral Data

Collaterals were interviewed by telephone, and were asked questions about the clients' alcohol consumption. In 19 cases collaterals reported the same alcohol consumption as the clients, in 7 cases collaterals reported more drinking than the clients, and in 7 cases collaterals reported less drinking than the clients. Collateral data were unavailable for 9 cases. There were no significant differences on drinking variables or other variables between clients with collaterals and those without, either at intake or at any follow-up point.

DISCUSSION

There were no significant differences among the four groups on any variable at follow-up. Mean values in each group showed significant reductions in alcohol consumption and in life problems. In all groups weekly consumption decreased significantly from intake to the first week after self-monitoring of drinking behavior. This indicates that a motivational approach during the assessment period and informational feedback to the clients about issues concerning drinking behavior might have been sufficient to help this target group of early-stage problem drinkers to change behavior. Another hypothesis is that these early-stage problem drinkers were, so to speak, "ready for treatment," and were inspired because they were accepted to participate in the study. Therefore they made decisions to activate self-healing or self-help processes before the treatment actually started. The treatment programs may have functioned as maintaining factors with regard to the behavior change. Both these hypotheses remain to be verified.

In any case, the minimal treatment program (bibliotherapy) can be

recommended to early problem drinkers who have a relatively low consumption at intake. Clients with a high consumption at intake may profit less from minimal treatment. For example four of the eight clients who received additional help between 3 and 12 month follow-ups belonged to Group 1 (bibliotherapy), and all four showed a higher than mean alcohol consumption at intake, and at one year follow-up nine clients still had a weekly consumption above 20 SECs. Four of these clients came from Group 1, and they were the same clients who had received help.

The results indicate the necessity for a control group receiving no treatment, as that could have made it possible to answer the question of whether participation in assessment and informational feedback from this assessment would lead to a behavior change at a one-year follow-up. Nevertheless, in spite of these reservations, there is no doubt that the majority of the clients in this study really did something positive with their problem behavior. They reduced their problem drinking, and their life problems decreased.

The study also shows that a newspaper announcement is an effective way of recruiting early-stage problem drinkers, at least in Norway. A motivational approach emphasizing individual responsibility, informational feed-back creating cognitive dissonance, de-emphasis on labeling, and internal attribution of positive behavior change can be a helpful approach in clinical work with early-stage problem drinkers. This approach may be particularly helpful for clients in the contemplation stage as a way of encouraging them toward action.

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10

Strategies of Change in Eating Disorders

CHRISTOPHER P. FREEMAN

INTRODUCTION

I have been asked to provide a review of strategies of change in eating disorders. This chapter may be somewhat out of place in this volume, firstly because this is the only paper on eating disorders and, secondly, because the theme of the book is that of addictive behavior and I have considerable reservations about whether two of the syndromes I am going to discuss have, in fact, any element of addictive behavior at all.

It concerns me a great deal that, in a number of papers in this volume, eating disorders appear to have been grouped with other sorts of behaviors, such as drinking and smoking. The implicit assumption is that obesity is a disorder of overconsumption of food in the same way that alcohol dependence is related to excessive alcohol intake. As I hope to show, the evidence for this is minimal.

I intend to discuss three groups of disorders: Obesity, anorexia nervosa, and bulimia. I will devote more space to a discussion of obesity and bulimia and relatively little to the more uncommon syndrome of anorexia nervosa.

CHRISTOPHER P. FREEMAN • Department of Psychiatry, University of Edinburgh, Royal Edinburgh Hospital, Morningside Park, Edinburgh EH10 5HF Scotland.

OBESITY

Strategies of Change in Obesity

For the last 20 or 30 years, treatments for obesity have been based on the essential assumption that fatness is due to some abnormality of behavior, and that this abnormality is either the intake of an excessive amount of food on a regular basis or, less frequently, subnormal physical activity. Treatments have therefore concentrated on efforts to correct the psychological causes of overeating, to educate people about diet, or to use learning-theory techniques to modify eating behavior in a systematic way.

The results of all this effort have been very disappointing. Few people change and even fewer maintain their change. If one looks more closely at recent research it is perhaps clear why this is so: the majority of studies have shown no difference in the food intake of obese infants, obese children, obese adolescents, or obese adults, when compared with their lean counterparts.

Whether obesity is truly caused by overeating, or by periods of overeating, is not yet certain, but what is clear is that obesity can be maintained without overeating. In fact, it can often be maintained even with undereating. Physicians will describe patients admitted to metabolic wards who are put on a strictly controlled 750 to 1000 K calorie a day diet, yet do not lose weight. Such findings are incompatible with the notion of curing obesity by normalizing eating behavior.

One of the most powerful ways that body weight is maintained appears to be regulation around a predetermined set point. This theory has recently been reviewed by Keesey and Corbut (1981). They have shown that rats who are overfed until obese develop physiological controls that act to sustain their weight at their new obese level. In other words, once a set-point weight becomes established, be it overweight or underweight, the body seems to defend this new set point against changes in calorie intake, As yet, relatively little is known about how such shifts in set point occur.

A study by Kromhout (1983), the Zutphen Study from the Netherlands, showed that middle-aged men in the highest quartile of body fat range consumed on average 300 to 400 kilocalories less than those in the lowest quartile. The Department of Agriculture figures from the United States (Friend, 1974) show that per capita calorie intake has fallen by about 5% during this century; yet the incidence of obesity is higher than it was 70 to 80 years ago. A study in Glasgow on adolescent boys between 1964 and 1971 (Durnin, Lonergan, Good, & Ewan, 1974) showed an average reduction in daily calorie intake from 2795 to 2610 kilocalo-

ries; over the same period body fat increased from 16.3% to 18.4%. These findings point to obesity being, if anything, a state caused by inactivity, rather than a state caused by abnormal eating. The decrease in activity may be small but may, over many months or years, help establish and maintain obesity.

Stern (1984) quotes a simple example:

> The Illinois Bell Telephone Company has estimated that in the course of one year, an extension phone saves approximately 70 miles of walking. For some people, this could be the calorific equivalent of 2–3 lb of fat or 7,000–10,000 Kcal. (p. 133)

As Stern has concluded, obesity is not a single disorder. For many people obesity appears to be a consequence of inactivity, low calorific requirements, or both.

Two other important factors should be discussed in relation to strategies of change in obesity. The first is the widely held belief that to become thinner is to become healthier. Most people are not thin. In fact by widely accepted, but entirely arbitrary standards, 40% of American woman are fat. As Wooley and Wooley (1984) point out:

> It would be very cruel of nature if it were to persistently thwart the best efforts of a substantial proportion of the population in their efforts to reach and stay in a weight range which caused healthy survival. (p. 186)

Is, therefore, thinner—healthier? Keys (1980) reviewed 13 prospective studies on obesity and mortality and concluded that the risk of early death increases only in extremes of underweight and overweight, with no impact on the middle 80%. This finding applied only to women. A similar conclusion can be drawn from data from the Framlington Study in 1980. In a paper entitled "Body Build and Mortality," Sorlic, Gordon, and Kennel (1980) showed that being underweight is more dangerous than being overweight. There was no relationship between being overweight and increased mortality for the middle 60% of the weight range.

In a study carried out in Arizona by Pettitt, Lisse, Knowles, and Bennett (1982), the safest weight range was 167% to 190% for women and 145% to 176% for men. (These percentages are of the Society of Actuaries standard "desirable" weights.) Similarly, Noppa, Bengtsson, Wedel and Wilhelmsen (1980) found an inverse relationship between death from all causes of obesity.

These studies, then, raise questions about one of the main rational bases used to justify the treatment of the mild to moderately obese. Perhaps the massively obese should be considered separately. In this group there seems clear evidence of increased mortality and morbidity, let alone simple discomfort and lack of mobility.

The second widely held belief is that dieting makes you feel better.

Although this may be true in the early stages of a diet, the price that many obese individuals have to pay to try to achieve a socially acceptable body is considerable. Studies of both successful and unsuccessful dieters indicate that there is a considerable psychological morbidity associated with dieting. A recent review by McReynolds (1982) shows that obese people undergoing help for their weight problems show evidence of psychological disturbance in terms of depression, anxiety, and general distress, whereas obese individuals in the general population who are not dieting show comparable or better psychological adjustment than the nonobese. Woolley and Woolley (1984) note that there are no good studies of the attitudes, life-styles, and coping strategies of well adjusted obese people.

Finally, we have to consider the impact that medicine's demand for universal slenderness has on society. Although it seems unlikely that this demand has caused the weight obsession of our current society, medicine could go a long way to defuse the situation by refusing to define fatness *per se* as a disease and refusing to treat it. The current epidemic of eating disorders, such as bulimia, seem closely related to such attitudes, namely the universal desire for slimness and the anti-fat prejudices that our society has—such as that being fat is ugly, that being fat is sexually undesirable, and that being fat indicates weakness. The conclusions of this argument from Woolley and Woolley (1984) are summarised in Table 1.

It seems to me that Woolley and Wolley's arguments are very cogent. The burden of proof clearly rests with those who claim that mild to moderate obesity is either physically or psychologically unhealthy and with those who claim that there are successful strategies for change, the benefits of which outweigh the harm they may do (Table 2).

What I have said so far applies to mild and moderate obesity. What about those classified as severely obese? Stunkard (1984a) estimates that there are about 40 million mildly obese people in the United States, 2 million moderately obese, and 200,000 severely obese individuals. The only strategies that reliably produce enduring change in the treatment of the severely obese are surgical interventions. Such treatments were introduced about 20 years ago. The first generation of operations was mainly the technique of jejunoileal by-pass. The aim of this type of operation was to reduce dramatically the area of the small intestine so that only about 18 inches was active. The surgical complications of this operation were often serious; mortality was around 5% and postoperative complications, such as severe flatulence and recurrent vomiting, were common. Thus, although the operations were successful in promoting weight loss, the risk/benefit ratio was not clearly in favor of surgical intervention, even in the most severe and intractable cases of obesity.

TABLE 1.
Should We Treat Obesity At All?

Findings

- Obesity treatment with the exception of surgical techniques carrying high physical risks are generally ineffective.
- Individual differences in body size appear to have a strong basis in biology, helping to account for the extreme measures required to maintain successful weight loss and high number of therapeutic failures.
- Mild to moderate obesity does not appear to constitute a significant health risk for women, and possibly not for men.
- An increasingly stringent cultural standard of thinness for women largely supported by the medical and psychological professions has been accompanied by a steadily increasing incidence of serious eating disorders in women.

Conclusions

It is hard to construct a rational case for treating any obesity other than massive life endangering obesity.

We must vigorously treat weight obsession and its manifestations, which are:

(a) Poor self and body image
(b) Disordered eating patterns created by dieting
(c) Metabolic depression produced by dieting
(d) Inadequate nutrition due to constricted eating behavior
(e) Disordered life-styles, often marked by excessive or inadequate exercise.

Note. Reproduced with permission from Woolley and Woolley (1984).

TABLE 2.
Classification of Obesity

Label	Mild	Moderate	Severe
Percent overweight	20 to 40%	41 to 100%	> 100%
Prevalence (among obese women)	90.5%	9%	0.5%
Pathology	hypertropic	hypertropic, hyperplastic	hypertropic, hyperplastic
Complications	uncertain	conditional	severe
Treatment	behavior therapy (lay)	diet and behavior therapy (medical)	surgical

The second generation of operations consists of a variety of gastric restriction procedures. The aim of such operations is to reduce the volume of the stomach to as little as 50 ml. The commonest such operation currently in use is gastric stapling. This consists of restricting the lumen of the stomach with a row of staples so that the individual postoperatively feels full after just one or two mouthfuls of food—the "one bite" stomach. Gastric stapling is a much safer operation with fewer side effects and a markedly lower mortality (Mason, 1981). It is as successful at promoting weight loss as earlier operations.

From a psychological point of view, one of the most interesting aspects of such surgical interventions is the behavioral and cognitive changes that occur postoperatively. Halmi, Stunkard, and Mason (1980) have shown that reducing diets are associated with a high degree of distress, whereas the emotional responses of postsurgical cases are much more benign, despite the subjects losing far more weight (Table 3). Favorable consequences of such operations are also more commonly reported. Seventy-five percent report increased well-being and 53% increased self-confidence. Changes in body image appear to occur, even before significant weight loss is achieved. Food likes and dislikes change, and there are increased feelings of satiety after food and decreased binge eating. It would seem therefore that gastric stapling surgery does far more than simply alter the functioning of the gastrointestinal tract; major changes in both biology and in cognitive functioning occur. Such individuals no longer have to struggle with the biological

TABLE 3.
Emotional Changes and Dieting

	Emotional response to dieting			
	Mild	Moderate	Severe	Total
Depression	20%	25%	15%	60%
Anxiety	19%	30%	23%	72%
Irritability	38%	27%	14%	79%
Preoccupation with food	6%	21%	55%	82%

Reduction in emotional responses when dieting compared with postgastric bypass state

	Less	Much less	Total
Depression	10%	45%	55%
Anxiety	14%	46%	60%
Irritability	21%	49%	70%
Preoccupation with food	17%	48%	65%

pressures to support a higher weight. They can limit their food intake with relative ease until a new lower set point is achieved.

Mild and Moderate Obesity

A review of all the strategies of change for individuals who fall within the group of the mildly and moderately obese is outwith the scope of this article. There are literally thousands of diet programs, hardly any of which have been subjected to any sort of evaluation. When viewed critically, it would appear that the outcome of such programs is universally dismal and that for every kilogram lost, a kilogram or more is eventually gained. The saying "dieting makes you fat" has much truth in it. Weight loss by carbohydrate restriction is achieved by loss of both lean muscle and body fat. Weight gain that occurs when diets fail is largely adipose tissue. The individual who has lost weight by dieting and then regains weight to his or her original level probably has a higher percentage of body fat.

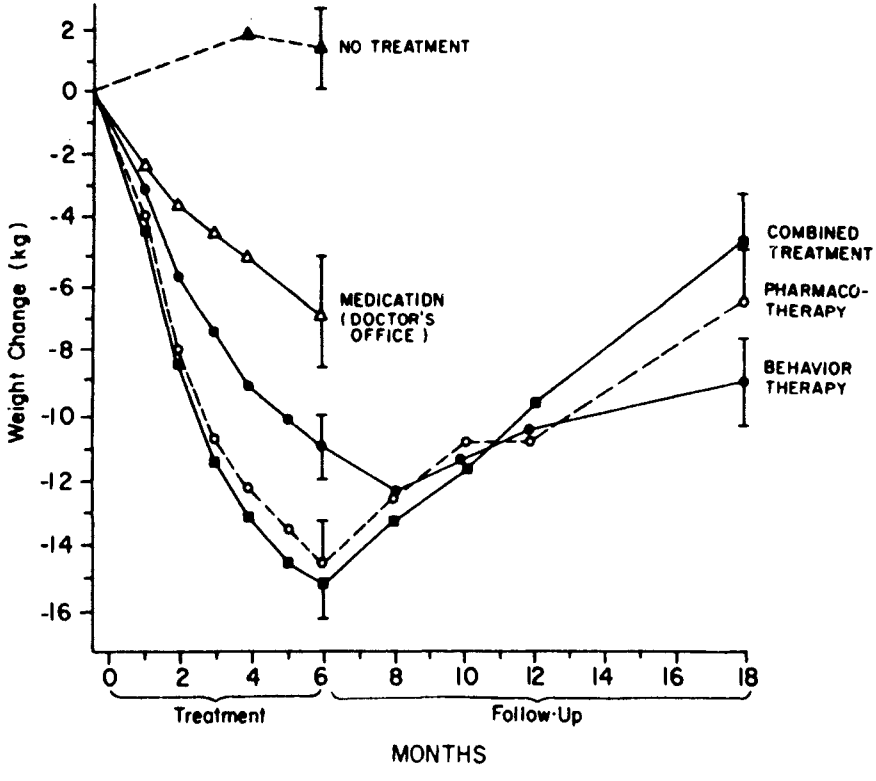

FIGURE 1. Weight changes during and after treatment for obesity Reproduced with permission from Craigshead, Stunkard, & O'Brian (1981).

Two developments are worthy of mention here. First, an increasing number of diet programs are promoting regular, vigorous exercise. It does seem clear that 20 to 30 minutes of such exercise at least three times a week can raise basal metabolic rate, lower body set-point weight, and produce weight loss with relatively limited restriction of food intake. The term *aerobic exercise*, or "aerobics," is misleading and wrong. If any such term is appropriate, it is *anaerobics*, namely exercise that exceeds the body oxygen supply and produces an oxygen debt.

Second, the approach of using pharmacological agents has until recently been frowned upon by most experts. Stunkard has always been a strong advocate of behavioral intervention. When he published the preliminary results of a trial in 1981 (Craigshead, Stunkard, & O'Brien, 1981), he concluded that behavior therapy was the best available treatment and that drugs were contraindicated. The trial whose results are summarised in Figure 1 compared the effects of pharmacotherapy alone, behavior therapy alone, and a combination of the two in 98 obese women over a 6-month period with a one-year follow-up. It is worth noting that tolerance did not develop to the drug used (Fenfluramine) over the 6-month period. When reviewing the results again at a conference (1983) (see Stunkard, 1984b), the author concluded that it was possible to lower a set point on a long-term basis using such drugs and that there was strong evidence to believe that tolerance does not develop. His conclusions were that appetite supressant drugs should either not be used at all or used on a chronic, long-term basis.

ANOREXIA NERVOSA

I will mention relatively little about the syndrome of Anorexia Nervosa, which is defined as follows by DSM-III (American Psychiatric Association, 1980, p. 67):

> a) Intense fear of becoming obese, which does not diminish as weight loss progresses.
> b) Disturbance of body image, e.g., claiming to "feel fat" even when emaciated.
> c) Weight loss of at least 25% of original body weight or, if under 18 years of age, weight loss from original body weight plus projected weight expected from growth charts may be combined to make the 25%.
> d) Refusal to maintain body weight over minimal normal weight for age and height.
> e) No known physical illness that would account for weight loss.

Although it is probably increasing in prevalence, anorexia nervosa is still relatively uncommon. There seems little doubt that it is a multi-

determined condition. Hsu (1983) reviewed six different groups of theories for its etiology. Ploog (1983) has recently suggested a seventh, which is that anorexia nervosa is an addictive behavior. Ploog compares anorexia nervosa to obligatory running, which has been shown to induce high cerebrospinal fluid endorphin levels, and suggests that dieting may do the same, producing addictive behavior and dependence. This theory has not gained wide acceptance and generally does not appear to fit the clinical picture as described, in that women with anorexia do not usually report cravings or withdrawal symptoms but much more frequently a highly controlled constant vigilance around food and eating.

The main reason for discussing anorexia nervosa only very briefly is that, as far as strategies for change are concerned, there is little or nothing to report that is new. Most treatment approaches are well described elsewhere and most have been in clinical use over the past 10 to 15 years. It is perhaps worth pointing out that, despite anorexia nervosa being a relatively circumscribed syndrome, which is easy to identify, worthy of treatment, and the main research interest of a number of professors of psychiatry in the United Kingdom, there have been no systematic attempts to evaluate treatment approaches. Lucid, up-to-date, and eclectic reviews are provided in two recent books by Garfinkel and Garner (1982) and Garner and Garfinkel (1984).

BULIMIA OR BINGE EATING

Bulimia is a relatively recently described syndrome in its circumscribed form, though as part of or as a late development of the anorexia nervosa syndrome, it has been recognised for many years. Intervention in a therapeutic sense is probably only warranted when the syndrome is severe. Unlike anorexia nervosa, the initial results of treatment programs have been promising and systematic attempts have been made to evaluate different forms of treatment.

The syndrome of bulimia is defined as follows by DSM-III (American Psychiatric Association, 1980, p. 69):

a) Recurrent episodes of binge-eating (rapid consumption of a large amount of food in a discrete period of time, usually less than 2 hours).
b) Awareness that eating pattern is abnormal and fear of not being able to stop eating voluntarily.
c) Depressed mood and self-depreciating thoughts following eating binges.
d) Bulimic episodes are not due to anorexia or any known physical disorder.
e) At least three of the following:
   1. Consumption of high calorie, easily digested food during a binge.

2. Inconspicuous eating during a binge.
3. Termination of such eating episodes by abdominal pain, sleep, social interruption or self-induced vomiting.
4. Repeated attempts to lose weight by severely restrictive diets, self-induced vomiting or use of laxatives and/or diuretics.
5. Frequent weight fluctuations greater than 10 lbs due to alternating binges and fasts.

Bulimia nervosa has been defined by Russell (1979) as follows:

a) The patients suffer from powerful and intractable urges to overeat.
b) They seek to avoid the "fattening" effect of food by inducing vomiting or abusing purgatives or both.
c) They have a morbid fear of becoming fat. (p. 429)

The major difference between the two definitions is that Russell's is more restrictive by virtue of including the requirement of "a morbid fear of becoming fat," and that binging alone is not sufficient. The syndrome has many other names, including dietary chaos syndrome, bulimarexia, stuffing syndrome, purging/vomiting syndrome, thin-fat people, and binge eating syndrome.

The development of the syndrome can be divided into three areas: these include vulnerability, triggering, and maintaining factors. Vulnerability factors to bulimia include a biological predisposition to obesity and probably to depressive illness. There is a family history of obesity and many sufferers are slightly overweight during adolescence and up to the onset of the syndrome. There is an excess family history of primary depressive illness and many individuals have a mixture of symptoms of bulimia and depression. Perhaps the most important vulnerability factor is the tremendous social pressure on women to be slim, athletic, and attractive. In Eastern and African societies where such pressures do not exist, there are no reported cases of bulimia. When African and Middle Eastern women move to the United Kingdom or the United States and become westernized, bulimia and anorexia nervosa do then occur. As yet, no clear-cut individual or family psychopathology has been described for the syndrome. In general, sufferers are more extravert, outgoing, and sexually experienced than women who have developed anorexia nervosa. A final factor that may predispose some women to bulimia is that they have very marked carbohydrate craving in the premenstrual period of their cycle. We have treated a number of cases who only binge and vomit during the week before their menses.

The triggering factors for bulimia are often quite trivial. It nearly always starts in the context of a period of intense dietary restraint. Most sufferers have been somewhat overweight and go on a strict diet in this setting. Carbohydrate craving increases and they break their diet by binging. Some women use food to cope with feelings of depression and

dysphoria, and comfort eating is very common in adolescent females. The syndrome may start after a relatively trivial personal remark about appearance or a minor life event, such as the break-up of a relationship. Many of the students that we see have put on weight at a time of stress—for example, while studying before exams—and resolve after this to diet even more intensively.

The maintaining factors for bulimia are more complex and a number of feedback circuits seem to operate to continue the behavior. The binges themselves initially produce relief of dysphoria and are therefore rewarding. As the binge continues, guilt and shame about the behavior increase, as does the general level of distress. The starve-binge-starve-binge cycle appears to become self-perpetuating. This is driven partly by emotional factors, such as relief of depression and anxiety by bingeing, which produces further depression and anxiety, leading to increased carbohydrate restraint with further binges following. It is also driven by biological factors. Carbohydrate restraint itself, as in severe dieting, produces marked carbohydrate craving and increases the likelihood of binging. The discovery of vomiting is initially intensely rewarding. Weight loss is usually quite dramatic and for the first time a woman may get down to a weight that is close to the one she desires. Unfortunately, vomitig allows relaxation of dietary control and it may also encourage overeating. Many women, once they know that they can vomit at the end of a binge, will continue to eat vast amounts in an uncontrolled way. Another maintaining factor may be that certain physical symptoms, such as intermittent fluid retention or parotid gland swelling, may cause panics about weight gain.

Clearly, there are many similarities with the syndrome of anorexia nervosa but there are also some subtle differences, which I think justify bulimia being seen as a syndrome in its own right. Less than half of sufferers have a previous history of anorexia nervosa. The majority start with bulimia as a new behavior. Perhaps prolonged dietary restraint, which is required for anorexia nervosa, is so difficult that only a small proportion of women can achieve and maintain this. About half of women who begin with restricting anorexia nervosa graduate to bulimia. The term *bulimia nervosa* is probably best used for this group of anorexic graduates. There are clear personality differences as mentioned earlier, bulimics being more extravert, more socially skilled, and showing less impulse control. The age of onset would also appear to be different; bulimia tends to start in late adolescence, or early adulthood, whereas anorexia starts in early adolescence. Perhaps the two syndromes represent responses to different maturational tasks occuring at different stages of adolescence.

In my view, bulimia (whether it be a syndrome in its own right,

associated with obesity, or chronic anorexia nervosa) is the eating disorder that fits the addiction/dependence model best. In fact, it is the only eating disorder that clearly does so.

Stages of Change in Bulimia

In terms of the stages of change that form the central theme of this volume, bulimics are quite different to women with anorexia nervosa. They are acutely aware that they have a problem, and rarely if ever use denial. They may be secretive in the extreme about their behavior but this secretiveness is usually deliberate and highly motivated.

Precontemplation

Very few women that we see are in the precontemplation stage. Very occasionally we have had a women referred, say by her general practitioner, because of family pressure after having been discovered vomiting and/or binging; or a woman may be referred by her dentist, because her tooth enamel is dissolving. Such individuals form a very small proportion of referrals.

Our view of such individuals has been to accept their state and not offer or coerce them into treatment. If a woman chooses to maintain her weight at 15% to 20% below her biologically determined weight, and if she chooses to do this by constant calorie restriction and uses vomiting and/or laxative abuse to cope with the binge eating the restriction precipitates, then that is her choice. Providing she is not distressed by her behavior and providing the behavior is not extreme, it is relatively harmless. It is quite an effective way of weight control and probably not an uncommon practice among late adolescent and young adult females.

Contemplation

Most who seek help are in the contemplation stage and they have been so for many years. The average length of time from onset of distressing symptoms to seeking help for bulimics is about 4 years. This delay in seeking help is usually not because of obsessional ruminations, or obsessional indecisiveness. It is usually because of guilt about the behavior and shame that will ensue when the behavior is made public. The majority of women that we see have told no one about their problem, or at most only one or two close women friends.

The confessional process in itself seems to be highly therapeutic. In our research, we have had a number of problems at this stage. Firstly, having confessed, subjects are highly eager to talk and pour out all their distress, problems, and abnormal behavior. They want feedback on how they compare with other subjects: Are there other people as distressed

or as bad as they, is there any hope for a cure? They have often read much about the syndrome in lay articles and in women's magazines. In our clinic, this catharsis usually occurs with the interviewer/rater who is doing the initial assessment interview and who is not going to be the subject's continuing therapist. This obviously creates problems.

Secondly, the confession is often so therapeutic in itself that the behavior stops for a few days, or even a few weeks, and occasionally stops completely, so it is not possible to get reasonable pretreatment baseline measures without waiting for the behavior to return. Distress at this stage is often marked and suicidal ideation and attempts are common.

Action

At the point, about half of our subjects appear ready to move on to the stage of action. They find the other assessment procedures irritating and slow; they are reluctant to take time over making careful baseline measures before treatment starts; and they want rapid if not instant action.

The other 50% remain stuck in the stage of contemplation, concerned with what they will have to give up if their behavior is to change. They are terrified that they will put on weight, concerned at how they will cope with their dysthmic feelings without the use of food, and about how they will cope with their carbohydrate craving. However, apart from group treatments, the dropout rate in our treatment has not been high.

Maintenance

As far as the maintenance stage is concerned, there is really not enough evidence of how individuals cope with this, nor do we have enough information of self-change or even whether this occurs in bulimia.

Management of Bulimia

Despite the fact that the syndrome has only relatively recently been described, there have been a large number of suggested regimes published. There are also several controlled trials of treatment recently published or in progress. It would appear then that the management of bulimia is being much more systematically evaluated than the management of anorexia nervosa.

TABLE 4.
Management of Bulimia

Treatment	Authors	Outcome
Drugs		
Phenytoin	Wermuth, Davis, Hollister, & Stunkard (1977)	negative study
	Greenway, Dahms, & Bray (1977)	positive study
Imipramine	Pope, Hudson, Jonas, & Yurgelan-Todd (1983)	positive study
	Johnson & Larsen (1982)	positive study
Phenelzine	Walsh *et al.* (1982)	positive study
Mianserin	Sabine, Yonacre, Farrington, Barratt, & Wakeling (1983)	negative study
Cabamazine	Kaplan, Garfinkel, Darby, & Garner (1983)	negative study
Group psychotherapy		
Once weekly eclectic groups with some individual counseling	Lacey (1983)	positive study
Short-term group, 9 weeks, 12 sessions self-monitoring, didactic information, alternative coping strategies	Johnson, Connors, & Stuckey (1983)	positive study
Eclectic group combining psychodynamic interpretations	Roy-Byrne, Lee-Benner, & Yager (1983)	positive study
Once weekly 90 mins 15 sessions eclectic group	Freeman, Sinclair, Annandale, & Turnbull (1985)	positive, but not as good as individual
Individual psychotherapy		
Cognitive behavioral	Fairburn (1981)	uncontrolled
Cognitive vs. behavioral	Freeman, Sinclair, Annandale, & Turnbull (1985)	both effective
Experimental/behavioral	Boskind-Lodahl & White (1978)	uncontrolled
Exposure and response prevention	Rosen & Leitenberg (1982)	uncontrolled

There are a number of important issues concerning treatment and there is no general agreement about any of them. Firstly, when to treat? The boundaries of the syndrome are so blurred that it is very difficult to set any definite cutoff point, as far as severity is concerned, beyond which treatment intervention is justifiable. For example, should people who only binge and vomit or purge very occasionally be offered treatment? Their behavior may cause them great distress, but happen only a few times a year. Should individuals who binge eat at times of stress, but who do not have an accompanying fear of fatness, be offered the same kind of treatment, or should they primarily have treatment for their anxiety? Is bulimia best treated on an outpatient or an inpatient basis? Some suggested regimes have closely modeled themselves on treatment for anorexia nervosa, which usually involves prolonged, intensive inpatient care. Another issue that has been relatively little discussed is the sex of the therapist undertaking the treatment (Vandereycken & Meermann, 1984). There is also the issue of how much the management of this syndrome should be medicalized. Over recent years self-help groups have sprung up and it may be that for many individuals professional help is unnecessary. Finally, there is the debate about the use of drugs, particularly anticonvulsant and antidepressant drugs, in the management of the syndrome.

Some of the suggested regimes of treatment are listed in Table 4. In this chapter I will highlight only a few of the treatments listed there but references are given to all the others.

The Use of Drugs

There have been two main groups of drugs suggested, the anticonvulsants and the antidepressants. Rau, Struve, and Breen (1979) have used diphenylhydantoin; Wermuth, Davis, Hollister, and Stunkard (1977) phenytoin; and Kaplan, Garfinkel, Darby, and Garner (1983) carbamazepine. The justification for anticonvulsants is a rather weak one, but the hypothesis is that, in those who show episodic abnormal eating and display an abnormal EEG, bulimia may represent a form of epileptoid behavior. The results of studies on anticonvulsants have been disappointing and, at present, I think that there is no justification for their use in the treatment of bulimia.

Three main groups of antidepressants have been used. Sabine, Yonace, Farrington, Barratt, and Wakeling (1983) used mianserin and found no difference between mianserin and a placebo in bulimic patients. Hudson, Pope, and Jonas (1982) and Johnson and Larson (1982) used imipramine. The most recent placebo controlled study (Pope, Hudson, Jonas, & Yurgelun-Todd, 1983) found that imipramine was associ-

ated with a significantly reduced frequency of binge eating. Walsh *et al.* (1982) have claimed efficacy for monoamine oxidase inhibitors and have produced some very promising results using phenelzine. At this stage it is not clear whether antidepressant drugs are acting as anxiolytics, antidepressants, or specific antibulimic drugs. Nor is it clear whether drugs successfully treat only those bulimics who have depressive symptoms. Although these drug studies report significant levels of improvement, careful inspection shows that for most subjects binging does not stop entirely, and that patients are left with significant residual symptomatology. In our experience, there is a small group of perhaps 10% to 15% of the total number of cases referred who have clear symptoms of biological depression, such as early morning wakening, retardation, poor concentration, etc. They respond dramatically to antidepressant medication and bulimic symptoms stop when the depression is relieved. In the much larger group of more typical bulimics, with some dysphoria but not a true biological depression, antidepressants have a very limited effect and probably work by reducing anxiety and stress.

Psychotherapeutic Treatments

Psychotherapeutic treatments are summarised in Table 4. Many different psychotherapeutic approaches have been suggested. Many are a combination of straightforward behavioral techniques and other types of psychotherapy. The most promising results so far have been group treatments (Lacey, 1983) and a type of cognitive therapy (Fairburn, 1982). The preliminary results of our own study (Freeman, Sinclair, Annandale, & Turnbull, 1985) comparing three different types of psychotherapy—namely, cognitive, behavioral, and group—indicate that all three types are successful in reducing the level of symptomatology, but that cognitive therapy has a greater effect on depressive symptoms and may have a more powerful effect on prevention of relapse, although relapse rates are high. So far there has been relatively little published on either family-based or psychodynamic approaches. Schwartz (1982) describes a single case of a 17-year-old girl treated with a family therapy approach and Linden (1980) describes the psychodynamic treatment of a patient with a ravenous appetite.

The next 18 months should see the publication of several large controlled trials of psychotherapy taking place in different parts of the world. This will give clinicians a much clearer idea of which treatments are effective and, importantly, which are cost-effective.

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11

Early Indications of Treatment Outcome in Multiple Drug Users

D. ADRIAN WILKINSON AND SIMONNE LEBRETON

INTRODUCTION

The past two decades have witnessed a dramatic increase in the use of a variety of psychoactive substances in the developed countries, and a predictable increase in the need for treatment services directed towards this problem. When presenting to treatment, most drug users report recent use of a wide variety of psychoactive substances (Farley, Santo, & Speck, 1979; Sadava, 1984; Wilkinson & Martin, 1983). Nonetheless, there is scant literature on the effectiveness of treatments for multiple substance abuse, also referred to as polydrug abuse (Sobell, Sobell, Ersner-Hirshfield, & Nirenberg, 1982).

In the field of substance-abuse treatment generally, there has recently been a trend towards the use of brief interventions. It can be argued that several factors have accounted for the trend. One factor is a body of evidence that brief treatments can be as effective as much more intensive and costly interventions. This finding seems to hold true in particular for clients whose substance-abuse problem is at a relatively early stage of development (Miller, Taylor, & West, 1980; Sanchez-Craig, Wilkinson, & Walker, 1986). Brief treatments have the significant

D. ADRIAN WILKINSON AND SIMONNE LEBRETON • Addiction Research Foundation, Toronto, Ontario, Canada, M5S 2S1. The views expressed in this document are those of the authors and do not necessarily reflect those of the Addiction Research Foundation.

advantage that they are minimally disruptive of other activities in which clients need to participate (e.g., professional and family responsibilities), and hence they are able to attract to treatment clients who would otherwise demur. Again this appears to be particularly true of clients whose substance-abuse problem is at an early stage of development, and who have not yet experienced the kinds of physical and social deterioration that are common in more chronic cases (Sanchez-Craig *et al.*, 1986).

Despite the finding that brief interventions can be effective for many persons with substance-abuse problems, it is plausible to believe that more intensive treatments would be more suitable for some clients (Orford, Oppenheimer, & Edwards, 1976). Hence, it behooves those providing brief treatments to attempt to identify the characteristics of clients who succeed in such interventions. The present chapter describes an initial evaluation of factors associated with treatment outcome in a group of multiple drug users who received a brief outpatient program of self-control training, and were followed-up one year later. Treatment outcome was defined exclusively on the basis of change in the frequency and nature of drug use from assessment to one-year follow-up (Wilkinson & Martin, 1983).

In planning this evaluation, we identified five clusters of variables that appeared to be predictors of treatment outcome. These were (a) the level of drug use in the year preceding treatment; (b) the multiplicity of drug problems and other life problems reported by the client; (c) clients' perceptions of need for professional assistance in resolving these problems; (d) measures of client motivation; and (e) the initial progress towards treatment objectives during treatment.

Pretreatment Drug Use

There is abundant evidence that the intensity and chronicity of substance-abuse problems, before treatment begins, are significant predictors of treatment outcome (Moos & Finney, 1983; Ogborne, 1978; Polich, Armor, & Braiker, 1981). In the present study this dimension was assessed by measuring the self-reported levels of drug consumption during the intial stages of treatment, and retrospectively for the year preceding treatment.

Problem Multiplicity

Perceived multiplicity of problems was indexed by the number of goal areas clients indicated on a self-completed questionnaire during assessment. Persons with substance-abuse problems frequently have

problems in other important life areas, and it is accepted that evaluation of such problems and their resolution is an important aspect of substance-abuse treatments (Lorei, 1982, Pattison, 1978; Sobell & Sobell, 1980; Wilkinson & Martin, 1984).

Perceived Need for Professional Help (Self-Reliance)

We assessed the clients' perceived need for professional assistance (self-reliance) by asking them to indicate those goals for which such help was required. The larger the number of goals a client selected for which professional assistance was needed, the lower that person scored on the measure of self-reliance. This measure may reflect the clients' self-efficacy in regard to those goals. However, because the procedure for assessing this dimension does not conform to Bandura's (1977, 1982) methods of assessing self-efficacy (in lacking behavioral specificity), we have restricted ourselves to the use of the term *self-reliance.*

Client Motivation

A frequent, and understandable, attribution that is made for treatment failure is low client motivation (Miller, 1985). This is particularly true in the field of substance-abuse treatment, where the concept of denial (a hypothetical motivational variable) holds considerable sway. Miller (1985) has comprehensively reviewed the issues of client motivation in alcoholism treatment and, largely on the basis of his work, a set of four variables were selected to reflect initial client motivation for treatment. It seemed particularly important to assess motivation because the treatment itself (Wilkinson & Martin, 1983) essentially comprised what Miller has termed a motivational intervention.

The first measures of motivation were the frequency of reported cravings for, and refusals of, drugs during the week preceding and the week following the start of treatment. Cravings were defined as the experience of a strong urge to use drugs, to which the person did not succumb. We reasoned that cravings thus defined would reflect restraint of drug use, and that such restraint indicates motivation. Similarly, the refusal of offers of drugs would constitute an indication of motivation to refrain from drug use. In addition, motivation was assessed on the basis of the degree of compliance to the therapist's request that drug use, cravings, and refusals be self-monitored during the first week of treatment. Finally, the goals that clients set for drug use during the first week of treatment were taken as a measure of client motivation. The more conservative the level of anticipated drug use set by the client during the first treatment session, the higher the level of motivation was judged to

be. We recognize the inherent circularity of these operational definitions of motivation. Nonetheless they represent the behavioral signs on which attributions of client motivation are frequently based (Miller, 1985).

PROGRESS IN TREATMENT

The last cluster of predictor variables involved the clients' initial progress in treatment. Specifically, relaxation of drug use goals during treatment and attrition from treatment would seem to indicate change in client motivation during treatment. These measures may reflect change in client motivation during treatment, or the failure of the motivational treatment.

METHOD

SUBJECTS

The subjects of the study were 49 (40 males and 9 females) multiple drug users who were randomly assigned to the treatment, as part of a larger study, and successfully followed-up one year later. Criteria for admission into the study included a client age from 16 to 30 years; clients' presenting for treatment of a substance abuse problem; not being psychotic or requiring hospitalization or psychotropic medication; willingness to accept either outpatient or residential counseling; normal cognitive ability; and clients' consenting to participate in the research project. Characteristics of the group are presented in Table 1.

INSTRUMENTS

A variety of information was collected from clients throughout the project by means of self-administered forms and standardized interviews. In the present chapter we describe only those procedures evaluated in this part of the study.

The Psychoactive Drug Use History form is a standardized questionnaire on drug use for the previous year (Wilkinson & Martin, 1983). Information is collected on use of 10 classes of drugs: alcohol; cannabis; hallucinogens; narcotic analgesics; sedative hypnotics; solvents and aerosols; stimulants; tranquillizers; volatile nitrites; and miscellaneous others. For all drug classes involving some reported use in the past year information is collected on recency; months with any use; days of use in months of use; frequency of use in days of use; typical dosage; mode of

TABLE 1.
Characteristics of 49 Clients Who Started Treatment and were Followed-Up One Year Later

Age (*Mdn*, Range)	23	16–30
Sex	M 81.6%	F 18.4%
Marital status		%
	Single	79.6
	Married/common law	10.2
	Separated/divorced	10.2
Employment status	Unemployed	63.3
	Employed	28.6
	Student	6.1
	Other	2.0
Education (*Mdn* highest grade)	10	
Social stability*	Low (0–4)	18.4
	Medium (5–10)	53.1
	High (11–14)	28.6
Legal status	On probation, parole, or awaiting trial	45.8
	No legal problems	54.2

*Skinner (1979).

administration; and the client's view of whether use of the drug was ever a problem, and if so whether it remains a problem. This history takes 30 to 90 minutes to administer.

The Treatment Goals form is a self-administered questionnaire in which the client indicates current goal areas, and, for each indicated goal, whether professional assistance is required. Listed goal areas include alcohol use; use of other drugs; anxiety; assertiveness; family problems; social skills; employment; leisure; accommodation; legal problems; sex education; and a write-in option. This form takes about 5 minutes to complete.

Self-Monitoring Cards were adapted from those published by Miller and Muñoz (1976). For purposes of the present study the format of the cards was retained, but the form was adapted to permit recording on several drug classes, for the identification of cravings and refusals of drugs, and for consumption. As with the Miller and Muñoz cards, clients are asked to record the time of events, dose, and context.

Information from self-monitoring cards was transcribed on to the *Drug Avoidance Inventory* during treatment sessions. This form is organized to permit day-by-day-recording of uses, cravings, and refusals of drugs in the 10 drug classes, for the week preceding completion of the form. The client's goals with respect to drug use in the interval between

appointments was recorded on the *Drug Use Goals* form. If use of any drug class was anticipated, the maximum frequency, quantity, and dose were indicated, as well as identification of situations in which use would be consistent with the goal, and situations in which drug use would be inappropriate.

INITIAL ASSESSMENT

After intake and orientation to procedures of the treatment center, clients were given an appointment for one day of assessment. Assessments were conducted by persons independent of the study.

Cognitive abilities were assessed by means of the Wide Range Achievement Test (WRAT, reading; Jastak & Jastak, 1978), the Clarke–WAIS Vocabulary Test (an earlier version of the Clarke Vocabulary Scale; Paitich, 1979), the Digit Symbol Substitution test of the Wechsler Adult Intelligence Scale (WAIS) (Matarazzo, 1972) and the Benton Visual Retention Test (Benton, 1963). Potential clients were included in the study if the following criteria were met: either WRAT scaled scored >45 or Clarke-WAIS scaled score >6; and either Digit Symbol scaled score >6 or Benton scaled score >−2. All clients received a medical examination, during which they were screened for medical or psychiatric problems (e.g., psychosis) that would exclude them from the study. A urine sample for drug screening was collected at that time. Clients meeting all of the admission criteria (see Subjects) were randomly assigned to one of the conditions of the larger study, and presented with a standardized description of the treatment condition to which they had been assigned, and details of the study requirements. Those consenting to participate then completed various questionnaires specific to the study, including the Psychoactive Drug Use History and the Treatment Goals form, and the first treatment appointment was scheduled for approximately one week later.

TREATMENT PROCEDURES

The treatment consisted of three training sessions and six follow-up sessions, spread over 70 weeks. Clients could elect to contact the therapist for additional sessions. The central features of the treatment procedures were cognitive and behavioral self-control measures aimed at reducing drug and alcohol consumption to levels the client considered appropriate. Essential components of this process were self-monitoring of drug use, setting specific goals for reduced use, and identifying cognitive and behavioral strategies for avoiding drug use in situations of high risk. In addition, problems in other life areas were identified. Per-

sonal or community resources were selected to help in resolving these problems. At the conclusion of each session the client received a copy of the form indicating the current goals with respect to drug use. From the second session on, he or she would also receive copies of forms completed in the session, indicating strategies selected for the avoidance of drug use, and plans to resolve other life problems. On the average, sessions lasted between 60 and 90 minutes.

All clients in the study received treatment from one of the authors (S. LeB.), a registered nurse, who received additional specific training for the study and had had 8 years of experience working with substance abusers. Training consisted of planning sessions about the treatment procedures to be used in the study, and participation in the development of a self-help manual. Literature on self-help manuals was reviewed, and a large selection of such manuals was purchased for subsequent use by clients. Potentially useful community resources were identified, and a filing system describing their characteristics was established. As part of the pilot study, the first author (D. Adrian Wilkinson) modeled the procedures, and then observed the therapist (Simonne LeBreton) in sessions with a total of 20 clients.

Independent Follow-up

An extensive follow-up interview and assessment was conducted, independently of project staff, at one and two years after the initial assessment. As part of this procedure the Psychoactive Drug Use History was readministered, and urine drug screen was repeated. A payment of $25.00 was provided to the client for attending the follow-up interview, which lasted about 2½ hours.

RESULTS

Categorization of Treatment Outcome

The first stage of the analysis was to assign the subjects to one of three outcome categories on the basis of information collected on the Psychoactive Drug Use History. This information was used to categorize the outcomes of clients as Successful (S), Significantly Improved (I), and Unimproved (U). Four raters (blind to client identity) independently compared each subject's data at pretreatment and one year and rated each subject (Wilkinson & Martin, 1983). All four raters had several years experience in research on substance abuse, and three had extensive clinical experience with multiple substance users. Subjects rated

TABLE 2.
Psychoactive Drug Use History

Drug class	Number of drug types used in drug class	Time since last use	Months of use in past year	Typical frequency in months of use	Typical # times used per day	Typical dosage & comments	Usual mode of administration	Typical source	Use problem ever?	Use problem still?	Years since first problem	Example of rating of consumption
	Circle types used	1 Past 24 hrs 2 24–48 hrs 3 48 hrs–7 days 4 7 days–1 mo 5 1–3 months 6 More than 3 months	Range 1–12	Range 1–30		Enter the units in which the use of particular drugs is specified Also note any complex patterns of use	1 Oral 2 Nasal (snorting) 3 Inhalation 4 Injection IV 5 Injection—other 6 Other	1 Retail 2 Prescription 3 Illegal 4 Gift 5 Self-produced	Has your use of . . . ever caused problems with your work, family, friends, health or the law? 1 No 2 Yes	Does your current use of . . . still cause problems for you in any of these areas? 1 No 2 Yes		Range 0–4
1. Alcohol	Beer; wine; fortified wine; liquor; other	1	12	20	6	Usually drinks an average of 6 pints of beer	1	1	1			2
2. Cannabis	Marijuana; hashish; hash oil; other	4	12	25	8	Smokes 10–12 joints of mainly hash every 2–3 hours throughout day	3	4	2	2	3	4
3. Hallucinogens	LSD; MDA; Mescaline; phencyclidine; psilocybin; other	4	12	8	1	Uses mainly LSD 4 hits a day All at one time	1	3	1			3
4. Narcotics	Codeine; heroin; hydrocodone; hydromorphone meperidene; methadone; oxycodone; pentazocine; propoxyphene; other	5	4	3	3	Takes 5–6 percodan a day 2 at a time	1	4	1			2

5. Sedative Hypnotics	Barbiturates; chloral hydrates; diphenhydramine; ethchlorvynol; flurazepam; glotethimide; methaqualone; other	5	4	3	3	5–6 Quaaludes/day 2 at a time	1	4	1	2
6. Solvents & Aerosols	Aerosols; cleaning solvents; gasoline; glue; other								1	0
7. Stimulants	Amphetamines; chlorphentermine; cocaine; diethyl propion; methamphetamine; methylphenidate; phenmetrazine; phentermine; other	6	4	30	8	Taking B's Ritalin for hyperactivity 8/day Bennies—only a few times	1	2	1	1
8. Tranquilizers	Chlordiazepoxide; diazepam; meprobamate; other minor tranquilizers; major tranquilizers	4	1	14	1	Taken while in jail for 2 weeks—2 valium to go to sleep	1	4	1	1
9. Volatile Nitrates	Amyl nitrate; isobutyl nitrate; other								1	Overall low incidence
10. Miscellaneous	Anticholinergics; antiemetics; antihistamines; other								1	Classes not rated

unimproved *by any rater* were termed "unimproved" (U), subjects rated as treatment successes *by at least 3 raters* were termed "treatment successes" (S) and subjects falling between those ratings were termed "significantly improved" (I). Thus, three groups of subjects (11 S, 20 I, and 18 U) were formed. The categorization of outcome was based exclusively on change in overall reported frequency and quantity of drug use for 10 drug classes. Self-reported drug use was validated by means of drug screening of urine samples (Martin, Wilkinson, & Kapur, 1984), and the employment of drug use as the sole dependent measure was convergently validated by examining concurrent changes in social stability, criminality, employment, incarceration, and social relationships (Wilkinson, & Martin, 1984).

DRUG USE AT ASSESSMENT AND ONE YEAR

Categorization of treatment outcome was based on a comparison of pairs of Drug Use History forms for all subjects; that is, it was a measure of change in drug use. It was clearly also desirable to assess the levels of drug use reported by subjects at both assessment and follow-up, for each of the three outcome groups. To permit this comparison an ordinal scale of frequency of drug use was constructed for each of *eight* of the drug classes: Alcohol, cannabis, hallucinogens, narcotics, sedative hypnotics, solvents, stimulants, and tranquillizers. Volatile nitrites and miscellaneous others were omitted as irrelevant after review of the assessment data.

Drug consumption in the previous year was measured in frequency for all drug classes except alcohol, for which annual consumption was estimated in standard drinks. In addition, pertinent information on typical dose was recorded (see Table 2). This dose information requires coding before full-scale analysis of the drug consumption data can be conducted. Hence, in the initial analysis, consumption for the 8 classes was rated on a five point scale by 3 of the 4 raters described above. Typical data and the ratings assigned are presented in Table 2. The data in Table 2 were collected from an actual subject at assessment. Guidelines for the ratings were issued, but could be overruled by the raters on the basis of additional information on the form. The guidelines are presented in Table 3. Satisfactory interrater reliability was obtained by this procedure (for all drug classes the range of correlation coefficients was .83 to .99).

For each client an index of drug use severity was constructed as follows: The three ratings for each of eight classes were added. Because the ratings were on a 5-point scale (0–4) this yielded a possible range of summed scores of 96 (3 raters × 8 drug classes × score of 4). The summed score was then divided by (3 × 8) to convert it to a *mean rating*

TABLE 3.
Guidelines for Ratings of Drug Use in Past Year

	Alcohol	Cannabis	Other drug classes
0 = Abstinent	No use of drugs from this class during past year.		
1 = Low	≤20 drinks/week and problem still? = No	≤4 joints/week and ≤2 joints/day of use and problem still? = No	≤1 use/month
2 = Intermediate	≤10 drinks/day and ≤42 drinks/week	<10 joints/week	>1 use/month but <1 use/week
3 = High	>10 drinks/day or >42 drinks/week	≥10 joints/week	≥1 use/week
4 = "Outrageous"	Very high level of consumption, even within this sample. At rater's discretion.		

per drug class for each subject, on a 5-point scale similar to that presented in Table 3. The averages of these mean ratings for the three outcome groups are presented in Figure 1. This shows the mean of mean ratings at both assessment and one year. Such means represent complex patterns of drug use. The two clients with the most representative reported

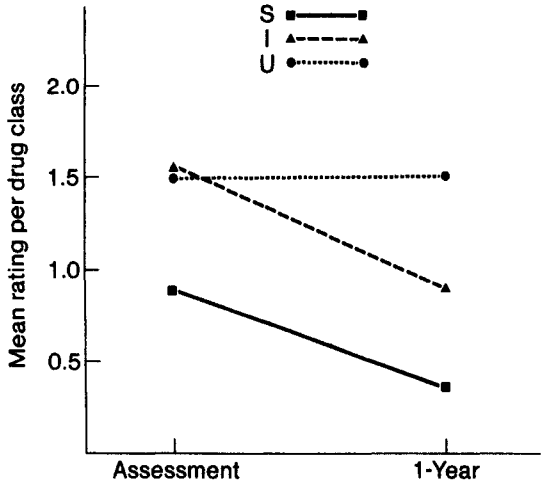

FIGURE 1. Mean ratings per class for clients in the three outcome categories at assessment and 1-year follow-up. The S group reported significantly less drug use in the year preceding treatment than did the other two groups. To clarify the meaning of these values the data from the two most representative clients from each outcome category are presented in Table 4.

TABLE 4.
Drug Use by Two Subjects in Each Outcome Group Whose Data Were Closest to Points on Graph

	Assessment	1-Year follow-up
Successful S_1	Reported consumption of an average of 12 "pints" of beer and one bottle of liquor almost every day. He bought "lots" of valium or librium on the street in units of 50–100 tablets, of which he would use about 25 tablets a day till finished. This would occupy about 16 days in the year. Once he received a 14-day prescription for a narcotic analgesic which he took as prescribed.	Reported 3 months abstinence from alcohol, then 9 months of 3–4 beers/day 3 times per week. He had continued to use prescribed analgesics occasionally and reported no use of benzodiazepines.
Successful S_2	Reported using 3 joints of cannabis 6 days/week through the past year. For seven months he had used about ½ gm cocaine/day 2–3 days/week, sometimes combined with 3–4 diet pills. About three times in the year he had used a headache remedy containing codeine. Alcohol consumption was 3 beers/day on weekends.	There were 3 uses of cannabis in past year, all of ¼–½ joint, 10 days use of narcotic analgesic as prescribed, and consumption of 10 drinks/day on 3 occasions per month.
Improved I_1	Reported smoking 2–4 joints of cannabis daily throughout the past year. LSD in doses of 2 "hits"/day was used on weekends. About three days/week for eight months 2–4 assorted "uppers" would be used once per day in a single dose. About four days/week 8 drinks of liquor would be consumed. One three day episode of use of narcotic analgesic, illicitly obtained, was reported.	Reported consuming one joint cannabis and 6 beers/day on weekends. On fewer than 10 occasions one "bennie" had been taken, and 10 mg valium on three occasions.

(*continued*)

TABLE 4. (*Continued*)

	Assessment	1-Year follow-up
Improved I_2	Reported smoking an average of 7–8 joints cannabis/day daily throughout the year. About 6 days/week he would drink 8 beers. Every other day he would use 6 "yellow jacket" diet pills in two doses. He had used narcotic analgesics about 8 times 4 capsules/time "for a different high." Sedative hypnotics were taken orally daily 3 times/day (methaqualone, 2 tabs.) for 3 months. About 30 mg valium had been used on three occasions and amyl nitrite once.	Reported use of 1 joint of cannabis almost every other day for 10 months. There had been 4 uses of hallucinogens, use of one tablet of barbiturate, and no narcotic analgesics. There were 4 uses of amyl nitrite, and valium (5 mg) once. During one month there had been 14 days of use of 1 "yellow jacket" three times/day. For 6 months he used 2 beers/day 5 times/month.
Unimproved U_1	Reported smoking an average of 3 joints of cannabis/day 20 days per month. For 10 months 6 pints of beer/day had been used 20 days per month. Psilocybin had been used 6 times in the past year. One "bennie" or cocaine had been used about 5 times/month through the year. Occasionally 15 mg diazepam was used for sleep.	Cannabis use was 2 joints/day every other day. For 5 months 6 beers/day 20 days/month had been used, but client had been abstinent from all drugs save cannabis for more than 3 months. For 6 months 2 tablets of percodan had been used 3×/day, 10 days/month. There were 4 episodes with psilocybin and 2 with barbiturates. For 6 months cocaine was used 15 days/month, 3 times/day, and valium (5 mg) once per day 10 days/month.
Unimproved U_2	Reported smoking 10–12 joints cannabis daily throughout the year. On 12 days/month 15 beers would be drunk. Use of "speed" (IV) or "bennies" 3 times/day, 20 days/month. One use each of LSD and valium.	Reported ½ gm speed/week (IV), 3 times/day, 15 days/month. Cannabis daily 7 joints, and 12 beer/day, 20 days/month. Eight months of use of PCP 3 times/day.

patterns of drug use, for each of the various points in Figure 1, are described in Table 4.

To summarize the data in Figure 1, at follow-up the three outcome groups differed predictably on the index of mean drug use. This result did not arise simply out of differences in drug use in the year before treatment. At that time the U and the I groups reported essentially the same high levels of drug consumption; however, the S group reported significantly lower levels of consumption before treatment than the other two outcome groups.

Treatment Goals Assessment

A further analysis of the pretreatment status of the three outcome groups involved examination of the Treatment Goals form. The results of these analyses for each of the two categories of goal area are presented in Figure 2. The figure indicates that the U group had more drug

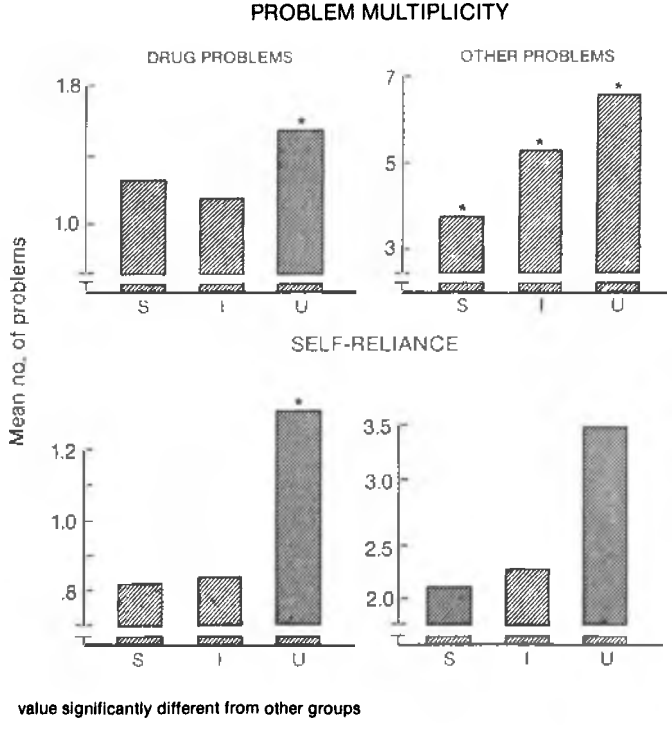

FIGURE 2. Mean scores on measures of problem multiplicity and self-reliance for clients in the three outcome categories.

goals than the other two groups, which were similar on this measure. With regard to other problems the U group identified the most problems, the S group fewest, and the I group were intermediate. Analyses of variance confirmed these impressions (for Drug Goals, $F_{2,46} = 4.00$, $p<.05$, U group significantly separated from I and from S, $p<.01$ by Tukey's *HSD;* for Other Problems, $F_{2,46} = 5.76$, $p<.01$, all groups significantly separated at $p<.01$ by Tukey's *HSD*). Analyses of variance for self-reliance scores revealed that the U group was significantly removed from the other two groups for drug goals ($F_{2,46} = 5.25$, $p<.01$). There was a similar trend for other problems, but this was not statistically significant ($F_{2,46} = 1.74$). In summary, the U group consistently identified more goals than the I and S groups, and indicated need for professional assistance with a larger number of goals. The I group did not differ from the S group in number of goals for which they needed professional help, or in number of drug use goals. However they did report more problems in other life areas.

Within Treatment Measures

The next phase of the analysis was the examination of performance of the three outcome groups on three clusters of variables measured within treatment. As previously indicated, the three clusters were assumed to represent (a) initial client motivation, (b) initial problem severity, and (c) changes in motivation within treatment. Some of the measures were collected during Session 1 and others during Session 2. As a check for the appropriateness of this procedure an analysis was made of subject attrition from Session 1 to Session 2. A total of 11 subjects did not appear for Session 2, one from the S group and five from each of the I and U groups. Fisher's Exact Probability test was applied to check for differential attrition from group S, but the hypothesis was not confirmed ($p = .220$).

Initial Client Motivation

Self-Monitoring. The degree to which clients complied with the request to self-monitor drug use behaviors was categorized into three levels: Daily self-monitoring; self-monitoring, but not each day; and not self-monitoring. The percentages of subjects in each category, from each of the outcome groups, are presented in Table 5. The three groups did not differ in the degree of compliance in Session 2. This was assessed by Chi-square analysis of Daily versus Not Daily or Not Self-Monitoring (χ^2

TABLE 5.
Measures Obtained During Session 1 and Session 2

	Groups		
	S	I	U
Session 1			
N	11	20	18
Drug use:			
Mean no. drug uses (past week)[a]	13.4	26.6	40.6
% of clients abstinent	18	10	6
Goals set:			
Mean max. drug uses[b]	14	25	26
% of clients planning abstinence	36	20	22
Session 2			
N	10	15	13
Self-monitoring:[b]			
Daily (%)	70	67	77
Not every day (%)	10	20	15
Not self-monitoring (%)	20	13	8
Cravings:[b]			
% Reporting	40	53	47
Refusals:			
% Reporting	20	60[c]	22

[a]Significant difference between groups.
[b]No significant between-group differences.
[c]Trend to between-group difference.

= .36, *df* = 2). Overall, 71% of clients attending this session self-monitored daily, and an additional 16% self-monitored, though not daily.

Craving. The frequency of cravings for drugs, recorded on the self-monitoring cards, was assessed in Session 2. The percentage of subjects reporting any cravings are presented in Table 5. The groups did not differ on this measure (χ^2 = .44, *df* = 2), which ranged between 40% and 53%.

Refusals. The percentage of subjects reporting any refusals of drugs in the previous week was also assessed in Session 2 (Table 5). Overall, 37% of subjects reported some refusal. The I group were more likely than the other groups to report refusal (60% vs. 20% and 23%). A Chi-square analysis indicated a trend to significance of this result (χ^2 = 5.73, *df* = 2, $p<.10$), however this finding should be interpreted with great caution because the expected values in two cells fell below 5 (Siegel, 1956).

Initial Drug Use Goals. The fourth index of motivation was assessed

in Session 1, in the form of goals for drug use in the coming week. Two kinds of assessment were made on these data: (a) The percentage of subjects in each group aiming for total abstinence are presented in Table 5. The frequencies were too low to permit statistical analysis, but the data do not indicate a systematic difference between groups on this measure. (b) The mean maximum frequency of drug uses was computed for each group. Maximum frequency of drug uses was defined as the sum of the product of maximum days of use by maximum frequency in days of use, summed across all drug classes. (Almost all anticipated drug uses were for alcohol or cannabis.) The obtained values are presented in Table 5. One-way analysis of variance indicated no overall main effect of groups ($F_{2,46} = 1.55$).

Initial Problem Severity

The measure selected to indicate initial problem severity was the frequency of drug uses reported in the retrospective history of the week preceding Session 1 (Table 5). One-way analysis of variance indicated a significant effect of groups ($F_{2,46} = 4.55$, $p<.05$). Between group comparisons indicated that the S group reported significantly lower frequency than the I group, who in turn reported lower frequency than the U group (Tukey's *HSD* $\alpha=.05$, 12.00). The proportions of clients reporting abstinence for that week (Table 5) reveal a similar pattern of results.

Change in Client Motivation

Change in Drug Use Goals. The first analysis of changes in client motivation involved examination of the numbers of clients who raised any of their drug use goals in Session 2, by increasing the maximum drug uses for any drug class from the level set in Session 1. One client in Group S, two in Group I, and six in Group U raised their goals, indicating that such change was more likely in group U (Fisher's Exact Probability test, $p=.028$).

Client Attrition from Treatment. Although attrition from treatment did not differ significantly between Sessions 1 and 2, there was an indication of greater attrition of U subjects between Sessions 1 and 3. This hypothesis was evaluated by contrasting the proportions of clients remaining in treatment for the three groups at Session 3 ($\chi^2 = 10.67$, $df = 2$, $p<.01$). Most of this effect appeared to derive from attrition of U clients between Sessions 2 and 3; the proportion of subjects failing to return to Session 3 after attending Session 2 was significantly higher in the U group (Fisher's $p<.001$). At Session 3, 90% of the S group, 73% of the I group, and 30% of the U group attended.

DISCUSSION

We stress at the outset of the discussion that our purpose has been to describe variables that are predictive of outcome, and that can be measured during the early stages of treatment. Such information may be of use to clinicians in selecting a treatment strategy. This chapter does not constitute an attempt to evaluate the relative importance of the variables assessed. Furthermore, the findings that have been presented represent group data, and their usefulness in making individual predictions has yet to be evaluated. Nonetheless, in the absence of any identified individualized predictors of outcome, the present findings can serve a useful heuristic function in developing future research and in managing individual cases.

PRETREATMENT DRUG USE

The initial finding of the study was that pretreatment drug use was predictive of outcome status. The S group, who had the lowest drug use at follow-up, also reported lower levels of overall drug use at assessment. However, the I and the U groups were not discriminated on this measure of drug use at assessment, though they differed at follow-up. This finding suggests two interpretations: either variables other than initial drug use accounted for the superior performance of the I group over the U group, or the measure of overall drug use was too insensitive to discriminate pretreatment differences between these groups. Because the measure separated the S group from the other groups at assessment, we favor the former hypothesis. The reader should bear in mind that outcome status (successful, improved, unimproved) was based on the clients' status at follow-up, and, as indicated by Figure 1, the I group may have achieved as great a change in their drug use as the S group. Thus, though their *outcomes* were different, these two groups may nonetheless have *progressed* equally, and differences at follow-up may simply reflect pretreatment differences.

Measures of drug use in the week following assessment but preceding Session 1 revealed differences between the three groups, which mirrored their status one year later. That is, before the intervention stage had begun the three groups had separated themselves. This suggests either that measures of recent drug use (past week) are better predictors of outcome status than measures representing a longer period (one year), or that self-initiated change in behaviour (by the I and S groups) is a good predictor of follow-up status. Whatever the explanation of this finding, it is clear that information about recent drug use may

be useful in determining whether clients are likely to fare well after a brief intervention, such as the one described.

Problem Multiplicity

The information collected on the Treatment Goals Assessment form was used to estimate the multiplicity of client problems. The unimproved group was significantly more likely that the successful and improved groups to identify problems with their use of alcohol and other drugs. The multiplicity of other problems mirrored the outcome status of the three groups, the S group identifying fewest and the U group identifying most. Thus the multiplicity of client-identified presenting problems is related to level of drug use at follow-up. This information can be very rapidly assessed before assignment to treatment and may prove useful in determining the intensity and complexity of treatment that clients should receive.

Self-Reliance

The measure of self-reliance can be viewed as an indirect assessment of the clients' perceived self-efficacy (Bandura, 1977, 1982) for achievement of their various goals. As was indicated in the results section, this measure separated the U group from the S and I groups. In contrast the I group, though they indicated a significantly greater multiplicity of problems than the S group, were no more likely to request help for problems. Again, though by objective measures their drug problems seemed as severe as those of the U group, by subjective assessment they were not. A compelling suggestion from this finding is that the clients' subjective estimates of the severity of their problems should be considered, as well as more objective measures, in formulating a treatment plan. This assertion is consistent with a variety of studies by Bandura and others (Bandura, 1982; Locke, Frederick, Lee, & Bobko, 1984) indicating that subjects' assessments of their future performance are among the best available predictors of their subsequent behavior.

In summary, the pretreatment severity of drug use and the multiplicity of problems were related to the outcome of treatment. Furthermore, clients' subjective judgments about the need for professional assistance in achieving their goals were predictors of treatment outcome. Clients low on self-reliance were more likely to have an unsuccessful outcome. Information concerning levels of drug use, problem multiplicity, and self-reliance can easily be collected in the early stages of treatment and should serve as a basis for planning the nature of the

intervention to which clients are assigned. This is probably common practice in regard to intensity of drug use and problem multiplicity. What is more novel about the present findings is the indication of the usefulness of the clients' subjective judgments. Clinicians could use such judgments for more extensive assessment of their origins, and the nature of the treatment the client considers necessary. In short, it may be possible to exploit clients' ability to make personal prognostications so as to improve the effectiveness of treatment services.

CLIENT MOTIVATION

In the present study we employed five measures as indirect indicators of client motivation: Compliance with the request to self-monitor behavior; frequency of drug refusals; frequency of cravings; relaxation of drug goals; and attrition from treatment. The first three of these measures we interpreted as indicators of the clients' initial level of motivation for treatment. The latter two measures, on the other hand, are interpreted as reflecting change in client motivation during the course of treatment. In his extensive review of the literature on motivation for treatment, Miller (1985) indicates that a wide variety of indexes have been used to operationalize this variable. The conceptual bases for this multiplicity of measures are obscure, and appear to lie in the idiosyncratic subjective judgments of investigators or clinicians. In formulating the measures of initial motivation we conceptualized them as behaviors that have at least the appearance of aversive properties: Effort in recording one's own behavior, restraint from drug use leading to "cravings" that have to be resisted, and refusals of the presumably friendly offers of drugs from friends and acquaintances. Change in motivation was expressed by behaviors contrary to the explicit objectives of treatment (reduction of drug use, and completion of the program).

The measures selected to represent initial levels of motivation for treatment (self-monitoring, craving, refusals) yielded no evidence that the unsuccessful group exhibited lower levels of motivation than the other two groups, (though the I group indicated higher levels than the U and the S in frequency of refusals). In short, there was no indication that treatment failure was associated with lower levels of initial motivation.

Parenthetically, it may be noted that Miller (1985) indicates that expressed need for help is taken by some as evidence of client motivation. By this index one encounters the paradoxical finding that the group with the highest levels of initial motivation was the unsuccessful group.

Progress in Treatment

Change in motivation, as measured here by relaxation of goals and attrition from treatment, was associated with treatment failure. It is interesting to note that on the average the S and the I groups achieved at Session 2 the goals they had set in Session 1. In contrast, the U group failed on the average to achieve the goals they had set. It may be the case that this failure experience contributed to the change in motivation observed in this group, as expressed in attrition from treatment. Bandura and Cervone (1983) have suggested that goal setting and performance feedback are important elements of effective treatments. The present finding suggests the importance of attempting, in clinical practice, to ensure that the goals clients set for themselves are goals that they believe they can achieve. Performance feedback about failure to attain the initial goals of treatment may lead to client attrition.

In considering motivation for treatment it may be useful to delineate three aspects that, at the phenomenonological level, are importantly distinct. Clients are likely to enter psychological treatment having resolved to change behavior or affective states—this we term motivation for change. In terms of the theme of this volume this would be after contemplation and into decision making and action. Some persons with motivation for change initiate the changes themselves, whereas others seek professional assistance, which may be said to indicate motivation for treatment. In other words the action phase may be autonomous or assisted. Various treatment options are usually available. The extent to which a client views the particular treatment that is offered as appropriate to his or her needs could be described as motivation for *the* treatment. The present findings suggest that failing to meet goals of treatment may undermine such motivation. In such circumstances the treatment options are to set more achievable goals; to select alternative treatments that the client may view as more promising; or to make motivation attributions about the client to account for the lack of success. We suggest that either of the first two options have merit, and the person best qualified to choose between them is probably the client. In our study we found no justification for the third recourse.

In summary, three major conclusions seem to be justified by the present study. First, a majority of the clients were significantly improved at one year follow-up, after receiving the brief outpatient intervention. Hence, for selected multiple substance users, such treatment is apparently helpful. Second, problem multiplicity was, as expected, predictive of outcome status. Furthermore, the higher the clients' self-reliance for coping with problems, the more likely they were to have improved significantly at follow-up. Clearly, measures of problem mul-

tiplicity and client self-reliance may be useful in making initial decisions about treatment disposition. Finally, the outcome groups did not differ systematically on a variety of measures of initial motivation. However, clients who were subsequently unsuccessful showed evidence of change in motivation for the treatment within one or two sessions. Such information may be used clinically as the basis for raising with the client the advisability of seeking a more intensive form of treatment.

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12

Description and First Results of an Outpatient Drug-Free Treatment Program for Opiate Dependents

SABINE DEHMEL, FRANZ KLETT, AND GERHARD BÜHRINGER

INTRODUCTION

At the end of the 1960s an attempt was made in the Federal Republic of Germany to establish treatment programs for the increasing number of people dependent on illicit drugs. The major goal was the development of residential drug-free programs. In addition to a variety of other approaches, a research group at the Max-Planck Institute for Psychiatry developed and implemented a treatment program based on behavior therapy (Bühringer & De Jong, 1980; Bühringer *et al.*, 1978). Information is available concerning program implementation, effectiveness (De Jong & Henrich, 1978) and follow-up results to 8 years after treatment (De Jong & Henrich, 1978, 1980; Klett, Hanel, & Bühringer, 1984). Until the beginning of the 1980s, residential long-term therapy was judged by the majority of those working in the field as the only treatment that promised success. Only recently has outpatient treatment received some acceptance in Germany.

SABINE DEHMEL, FRANZ KLETT, AND GERHARD BÜHRINGER • Addiction Research Group, Department of Psychology, Max-Planck Institute for Psychiatry, 8000 Munich 40, Federal Republic of Germany. This study was funded by a grant from the Federal Department of Youth, Family, and Health.

The experiences gained in the residential treatment program, and in two pilot studies by the same research group of outpatient treatment of drug dependents (Feldhege, Krauthan, Schneider, Schulze, & Vollmer, 1977) and young alcohol dependents (Vollmer & Kraemer, 1982; Vollmer *et al.*, 1982), were the basis for an ongoing, 4-year research project on the outpatient treatment of drug dependents. The overall goals of this project are (a) the development and evaluation of a comprehensive drug-free treatment program based on behavior therapy, including follow-up data; (b) analysis of the organizational aspects of the implementation of such a program in German outpatient treatment centers (e.g., cooperation with physicians' private practices); and (c) analysis of the target group for such a program (i.e., indications for outpatient treatment). This chapter includes a description of the program and some first results from the subgroup of those clients whose treatment has now been finished.

PROGRAM PHILOSOPHY AND TREATMENT GOALS

The outpatient program is based on a behavioral approach. The principle of changing behavior and cognitive structures by replacing inadequate behavioral patterns with more appropriate responses and coping skills is applied to the treatment of drug dependence. The change model integrates aspects such as therapist–client interaction (Kanfer & Grimm, 1980), the analysis of individual problems that cause or are related to the dependent behavior, the client's resources and abilities, and the issue of the correct timing of the next step within the change process (DiClemente & Prochaska, 1985).

An outpatient program has the advantage of being able to change behavior within the context of the client's actual, day-to-day life situation. Because change is not a linear process, but takes place in a system of interactions and response patterns, integration of family members or significant others is necessary at certain points during treatment. In order to describe this therapeutic approach by its objectives, structure, and interventions, the image of a circle, as shown in Figure 1, may be helpful.

There are two sections within the circle shown in Figure 1, corresponding to two basic assumptions for effective drug-free treatment. The first section focuses on the extinction of overt drug-using behavior and the second on the maintenance of drug abstinence in a long-term, drug-free life. There are four different phases in the cycle: drug abuse, detoxification, stabilization of drug abstinence, and relapse. The therapeutic approach is analogous to the model of processes and stages of

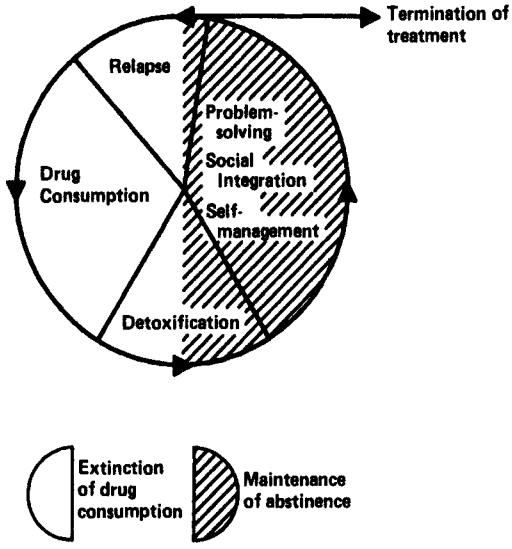

FIGURE 1. Model of treatment stages.

change described by Prochaska and DiClemente; clients who enter the program can be at different phases of the cycle and it is likely that they will move through this cycle more than once. Each phase can be seen as an important treatment objective and movement from one stage to the next involves different processes. Therapy has to be orientated to the client's deficits, needs, resources, and abilities to enable the client to achieve long-standing drug abstinence.

The outpatient treatment combines a structured framework, defined by outcome goals (such as abstinence, social integration, solution of individual problems) and rules, with an individual procedure related to the client's present situation and strains. Regardless of the phase in which the client enters treatment, there is a set procedure at intake. The first contact has the following components: obtaining demographic data from clients concerning drug abuse and present situation (e.g., court referral); giving a brief description of therapy by pointing out goals and rules (i.e., controlled urinanalysis, regular attendance, etc.); and establishing motivation for therapy (e.g., reinforcing the reasons for drug abstinence). It is important that the therapist shows evidence of such interactional variables as acceptance, interest, understanding, confidentiality, and role clarity (Kanfer & Grimm, 1980), which are part of the whole therapeutic process. Ineligible for admission are those clients who need only aftercare services, who are not dependent on hard drugs, and who disagree with the rules and basic goals of the program. The treat-

ment duration for planned discharge ranges from 8 to 12 months, with an average of two individual therapy sessions per week.

The first part of the treatment cycle may be the phase of consuming drugs. The focus is on overt behavior, with the goal being to establish a motivation for detoxification. This phase resembles that described by Kanfer and Grimm (1980) as the development of a commitment for change and can be compared with Prochaska and DiClemente's stage of contemplation, in which clients have considered giving up drugs but have not yet changed their drug-consuming behavior. The therapy has to build up and strengthen motivation for abstinence by the following interventions: Working out goals incompatible with drug abuse; analyzing the value of these goals; examining the pros and cons of drug abstinence and their short-term versus long-term consequences; building up self-confidence by pointing out prior successful changes and positive experiences with abstinence; using drug-free models; and, finally, ending the process by making a contract regarding detoxification. The possible methods of withdrawal are the reduction of drugs, an abrupt abstinence with the support of a physician or significant others, and going into a hospital. Through these processes, the client acquires self-responsibility and moves from a more passive cognitive state to the active stage of detoxification.

A special problem in drug abuse treatment programs is related to the percentage of clients who enter therapy because of court pressure. Quite often, the external motivation makes it difficult to move a client into a state of self-responsibility. These clients appear to commit themselves to change and attainable goals, but constantly try to find ways to continue their old behaviors.

To complete detoxification, clients learn to anticipate withdrawal symptoms in order to lower anxiety, to analyze situations that are cues for drug consumption, to develop alternative behaviors in tempting situations, to rehearse goals and values concerning abstinence, and to change their usual daily pattern. The focus of the interventions is always on a client's potential, given his personal limitations.

This last phase lasts until the client has abstained from drug use for at least a week. Changing into the stage of maintenance is a very important and critical step. Abstinence is necessary because of its links with achieving goals in other areas of daily life, such as jobs, housing, and relationships that are measures of personal success and satisfaction. If clients change in positive ways and are still consuming drugs, the danger of the positive conditioning of drug abuse is very likely.

The other part of the cycle can be called the stabilization of drug abstinence. It is important to emphasize that processes in this part of treatment have, to a certain extent, also been issues in the previous part.

The positive value of a drug-free life has to be supported by reducing personal inadequacies and attaining new resources. Social integration, problem solving, self-management, restructuring of self-concept, expectations, and vulnerabilities are the goals of this phase. Clients learn to set attainable goals, to be aware of the original function of drugs and replace it by adequate coping skills, and to observe and control themselves. The treatment of alternative behavior also includes therapeutic techniques like covert conditioning, contingency contracting, and assertiveness training (Götestam & Melin, 1980). Timing is an essential issue because change can have an overwhelming effect that may lead to a relapse, and this starts the cycle all over again. As change is not a linear process, we expect relapses to occur and there are many reasons for them. There can be external factors like an extremely stressful life situation, temptation events with which the client cannot yet cope, or therapy-related factors that have to be attended to in the treatment process.

It is always important, in terms of relapse prevention, to address motivation for change, the modification of goals, the extent of alternative behavior, the connection between personal problems and the original drug use, and self-responsibility. The anticipation of a possible relapse and working it through by sensitizing clients for signals within their behavior are very useful intervention techniques (Cummings, Gordon, & Marlatt, 1980). If a relapse occurs, therapy has to start again at the first point of the cycle. The time spent moving towards the point of detoxification might decrease, but it is essential to address every step within this phase (pro/cons, decision, negotiation). In addition, the function and meaning of the relapse should be analyzed and addressed in terms of new information for self-control.

In the stage of maintenance, there is a move from acute problem solving towards a generalization of learning. Clients should be able to manage their lives without professional help and cope with future problems in an adequate way.

METHOD

The study was designed using a pre-post treatment assessment and further assessments are made during the course of treatment. Follow-up interviews are conducted at 6, 12, and 24 months after the end of treatment. At enrollment into treatment, information about frequency and type of drug use, employment, personal relationships, and housing situation is gathered. These data refer to the client's situation in the periods of 6 or 12 months before entering treatment. No control group is

included for both ethical and practical reasons. It is very difficult to obtain a group of untreated drug dependents because, if they are interested in treatment and if entry is not possible within a certain time, they choose to enroll in a different program or disappear.

In order to evaluate the results of the program, we plan to compare clients finishing therapy to dropouts. In addition, comparisons with clients of residential treatment facilities are to be made.

ASSESSMENT

Standardized questionnaires, rating scales, and clinical evaluation are used to document the status of the client upon enrollment in therapy and at the time of completion. This assessment includes personality tests, socioeconomic data, and the life situation before regular drug use and in the 6 months prior to therapy, as well as detailed information about the client's use of legal and illegal drugs and other addictive substances. Information about the course of therapy is collected from the notes of therapy sessions and ratings, which focus on treatment objectives and individual goals. In order to assess the client's drug-abstaining behavior, unscheduled, controlled urinanalyses are carried out.

Follow-up assessment, which includes all clients, is carried out by staff unconnected with the therapy team. The interview includes standardized questionnaires and rating scales, adjusted and comparable to the pre- and postmeasurements, as well as urinanalysis. This assessment corresponds largely with the follow-up standards of the German Society for Addiction, Research & Treatment (Deutsche Gesellschaft für Suchtforschung und Suchttherapie, 1985).

SUBJECTS

The outpatient treatment program is planned for people dependent on hard drugs, which include predominantly heroin and some other addictive substances, like amphetamines and barbiturates. Enrollment in treatment is independent of the type of drug use (oral, i.v.) and detoxification is not a required condition for enrollment. Those free of drugs for more than 6 months or those who have been imprisoned for more than 2 years are ineligible for admission to the program. These requirements prevent the outpatient treatment program from being used as an aftercare facility. It is also required that clients live within a

given distance from Munich in order to ensure that they are able to attend frequent therapy sessions. Clients are referred by different sources, such as the courts, probation officers, drug counseling centers, physicians, and other clients or friends.

The data that follow are based on 46 clients who had completed treatment (planned discharge and dropouts) at the end of 1984. 21 clients are still enrolled in treatment. The distribution of male and female clients matches the figures from other therapeutic institutions, with 70% (32) males and 30% (14) females. With four exceptions, all are German nationals. In the entire sample of 46, only three clients are married and one is divorced. Average age is 25 years on enrollment, with a range from 18 to 44.

Table 1 shows that 30% of the clients had failed to finish secondary education and nearly one fifth never completed elementary school. In terms of diagnosis, all clients were dependent on hard drugs. (The definition of hard drugs includes all sorts of opiates, cocaine, amphetamines, such as speed, and all medically used narcotics, as recommended by the Federal Criminal Investigation Department.) Only 9% used narcotics or opiates (morphine, codeine) other than heroin as their major drug.

Nearly all our clients have injected drugs (91%). The average age of first regular use of hard drugs is approximately 18 years and the average duration of dependence on hard drugs is 7 years before enrolling in treatment. Figure 2 shows the drug consumption pattern during the 4 weeks prior to treatment. This reflects the efforts of some clients to reduce consumption before entering treatment.

TABLE 1.
Education Characteristics at the Beginning of Treatment

	N	%
Elementary school, no degree	8	17
Elementary school graduate	7	15
High school, no degree	14	30
High school graduate	10	22
College education, no degree	1	2
Unknown/other	6	13
Total	46	100

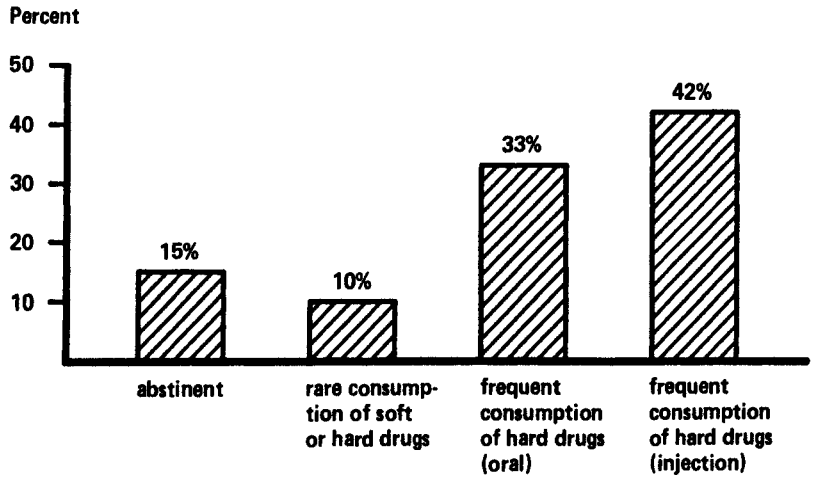

FIGURE 2. Drug consumption during the 4 weeks prior to treatment.

RESULTS

PROBLEMATIC BEHAVIOR

Drug Behavior and Previous Treatment

At the beginning of treatment, 26% of the 46 clients were abstinent, 57% used hard drugs, and the remainder were dependent on medications, soft drugs, or abused alcohol. Nearly 22% failed to detoxify. 12 clients were detoxified at home, 11 stopped their drug use by abrupt withdrawal, and one reduced his dose gradually. Three clients underwent detoxification in a psychiatric ward of a hospital.

Reports of previous treatment experiences show that half the clients had never attended a residential treatment program, 26% had once been involved in residential treatment, and 24% had participated in two to five different treatment programs. As only four clients reported completing previous treatment, the percentage of dropouts (83%) is very high.

Education and Employment

Eight clients (17%) had dropped out of primary school and 15 clients (33%) failed to complete secondary education. An even higher percentage (63%) dropped out of vocational training, with six failing to complete two or more training experiences. Only 22% passed the final examinations of their vocational training. These data reflect the problems

surrounding vocational integration: clients are too old to enroll in vocational training program and therefore can achieve only an unskilled working position.

In the 6 months before beginning therapy, 4% were enrolled in educational activities, 11% were regularly engaged in unskilled employment, and approximately 11% were regularly employed as skilled workers. About 13% were without steady employment and more than 39% were unemployed. This percentage of unemployment is four times higher than the average rate in Germany.

The major source of income for eight clients (17%) in the 6 months preceding therapy was their own jobs. Seventeen (37%) received sick pay, social support, or were supported by their relatives, and eight (17%) lived on illegal income.

Legal Status

Approximately one fifth (22%) of the clients had neither appeared or been sentenced in court before enrolling in the program. Sixty-one percent had been found guilty of buying, dealing, and/or possessing illicit drugs. Seventeen percent had been convicted of non-drug-related criminal activities. Twelve (26%) of the 46 clients had been sentenced to jail without probation.

Compared to residential treatment facilities, the percentage of clients who had a court order for therapy was low and more than half (54%) entered voluntarily. Forty-six percent were required to undergo drug treatment, with five cases being forced to choose between entering treatment or receiving a jail sentence. This is in accordance with Paragraph 35 of the German Narcotic Act.

Outcome

Total Sample

Thirty percent (14) of the participants in the program completed treatment and 52% (24) dropped out. Therapy was terminated in 11 cases by the client, in 8 cases by the therapist, and 5 clients left for other reasons. Six (13%) clients were placed in a long-term inpatient treatment program because outpatient treatment was too difficult for them, and two were imprisoned.

Clients attended an average of 25 sessions of therapy, with a range from 4 to 89 sessions. Thirty-nine meetings was the average duration of therapy for those clients finishing treatment. Those who quit participated in 17 sessions and those sent to residential programs attended 24

sessions. The average length of therapy was 9 months when regularly finished and 4 months when participants were sent to other treatment programs. Those clients not finishing therapy quit after an average period of 3 months.

Comparisons Between Clients with and without Court-Ordered Therapy

As consuming, possessing, and dealing with drugs is illegal, a large number of drug dependents enter therapy programs as the result of court orders. In our program, 46% of the clients had to prove to the court, in different ways, that they were involved in therapy. Comparing this figure with recent data from an inpatient treatment program, where 85% of the clients are court ordered, there is a suggestion that an outpatient, drug-free program is more attractive to clients who enroll voluntarily.

Our sample includes a small group who were ordered to a treatment program in accordance with Paragraph 35 of the German Narcotic Act. These clients had been in jail prior to entering court-ordered therapy. Personal demographic data suggest some differences betweeen these clients and others with court orders. The former had generally been addicted for longer periods (ranging from 6 to 11 years) and had previously participated in treatment programs more often than the reference group of court-ordered clients.

More information can be gathered from the comparison between clients who started therapy as a result of a court order and those who came voluntarily. The outpatient treatment program was the first therapy experience for more than two thirds of the clients (70%) who had voluntarily entered treatment. In comparison, 24% of those with court orders had no previous treatment experiences.

Upon enrolling in therapy, 80% of those who had voluntarily entered the treatment program were employed or in school and 71% of these lived in their own apartments. By contrast, 25% of those required to enter therapy by the court were employed and 53% were living on their own. Forty-three percent of the voluntary clients had never been convicted of criminal or drug-related activities. This shows the higher social integration of clients who enter therapy on a voluntary basis. No group differences were found with respect to duration of dependence. The program was also voluntarily chosen by clients with a long history of drug dependence.

At the beginning of therapy, 22% of the voluntary group were abstaining and the remaining 78% were still consuming hard drugs. Of those clients required to enter therapy, 50% were abstaining, whereas the remainder had changed to alcohol, medication, and/or soft drugs.

Of those required to undergo treatment, 38% completed treatment, compared to 20% among the voluntary clients.

Comparisons Between Dropouts and Planned Discharges

Completion of the program was defined as abstinence from drug use for at least 3 months, social integration in accordance with the client's competence, and a consensus between client and therapist concerning the achievement of individual goals, the stabilization of the social situation, and an awareness that the client was able to cope with problems adequately.

All clients who terminated treatment before achieving all these goals, and were not referred to other programs or imprisoned, are included in the dropout group, irrespective of the reasons for termination. The following examples point to some reasons for dropout: obvious violation of rules, such as ignoring a negotiated contract concerning abstinence; unsuccessful detoxification attempts; the client's satisfaction with his present life situation.

Of the 24 clients who dropped out, a high percentage (54%) quit treatment before the 15th session. The group who were referred to residential treatment stayed an average of seven sessions longer in treatment. This is related to the fact that, after the decision for residential treatment has been made, there is a preparation period before referral. Table 2 shows that the critical period for treatment termination is within the first 3 months. This finding corresponds to results from American outpatient treatment programs (Craddock, Hubbard, Bray, Cavanaugh, & Rachal, 1984).

At the beginning of treatment, 46% of the clients who became planned discharges had been drug free, compared to 29% of those who

TABLE 2.
Treatment Duration According to Termination, Drop Out and Referral

	Planned discharge	Dropout	Referral/ arrest
Mean number of therapy sessions	39	17	23
Mean treatment duration (months)	8.7	2.9	4.4
Mean number of relapses during treatment	2.8	1.7	3.3

dropped out. This shows that abstinence favors planned termination. However, there are some problems with this interpretation because the data do not yet differentiate between clients who were detoxified for only a week, those who had been abstinent for up to 5 months, and those who had come directly from hospital, jail, or inpatient treatment facilities.

Employment at the beginning of therapy shows some positive effect on the completion of treatment; 53% of the already employed clients completed treatment, compared with 24% of the unemployed clients. The percentage of clients with previous treatment experience who completed treatment is as high (40%) as the percentage of those who never attended a previous treatment program and were planned discharges. This shows that previous therapy experiences do not have an important influence on the type of termination.

The clients who failed to complete therapy had more frequently failed to finish educational and vocational training than those who regularly completed the program. In addition, no sex differences were found with respect to completion of the program.

Pre-Post Comparisons among Planned Discharges

Fourteen of the 46 clients (30%) were planned discharges. For this subsample, some preliminary data concerning status on enrollment in therapy and the situation at the time of completion are available. During the 6 months before entering therapy one client was abstinent, nine were injecting heroin and opiates, and four took opiates and narcotics orally. Upon completing therapy, every client had shown drug-free behavior for the previous 3 months. This was checked by urine tests.

With the exception of two clients who were still unemployed, all were regularly employed. The three clients who had found a job during the first three months of treatment had all been required to enter therapy by court order. The housing situation of two clients changed during the course of therapy. Both had left their family homes and were living in a close relationship with another person. No client finishing therapy was living with a drug-using partner or in a group living situation in which one or more members were using drugs.

DISCUSSION

There are some methodological issues that need to be discussed before evaluating the results. Because of the lack of a randomized control group, it is only possible to compare the data with those from

matched groups of clients enrolled in other programs. These comparisons have not yet been made because some clients from the total sample (not included in this report) are still in treatment. Another methodological problem is related to the retrospective nature of measurements on those clients who dropped out. Lack of data regarding the status of clients at the time of dropout makes a pre-post comparison for the whole sample very difficult. Therefore, this information must be assessed in retrospect at the first follow-up.

If we bear in mind that follow-up data are not yet analysed, the program seems to constitute a lower-cost, additional treatment resource for opiate dependents. The results from the 30% planned discharges, based on strict termination criteria, such as a drug-free status, achievement of social integration, and the solution of individual problems, are encouraging if compared with data provided by German residential treatment programs (Klett *et al.*, 1984) and American outcome studies (Craddock *et al.*, 1982). In addition, 13% of clients were referred on to other treatment services, mainly residential programs.

Despite all the apprehensions and criticisms surrounding the outpatient treatment approach at the beginning of the research project, there was no shortage of clients applying for the program. The attraction of the program probably relates to a less severe intrusion in the lives of clients who remain part of the social network, to the opportunity to improve integration during the therapeutic process, and to the chance to undergo detoxification as an initial part of treatment. The last point is in contrast to conventional treatment programs, where clients have to be detoxified before intake.

Detoxification proved to be a critical issue. A high percentage of clients failed to become detoxified or relapsed into a continuous pattern of drug abuse. The therapeutic program focuses on the individual stage in the change process. Clients who are still consuming drugs have first to develop a motivation for abstinence and this process is quite time-consuming. On the other hand, there is a danger arising from the combination of therapy and ongoing drug use. The attention and understanding of the therapist can become preoccupied with drug abuse and interfere with the motivation for change. Another critical point is shortly after withdrawal. Detoxification is connected with the realization of deficits and problems that seem to be overwhelming to the client and are often cues for relapse. Therapy has to be more clearly structured in terms of *when* the client should move to the active stage of detoxification. It seems that the emphasis on the client's self-responsibility in this phase has to be more clearly connected with external pressure from the treatment program. Another factor that interferes with moving into the abstinence stage is the availability of legally prescribed drugs. Many physi-

cians and pharmacists prescribe addictive substances very easily, which raises temptation and affects the motivation of dependents.

A further crucial issue in the treatment of drug abuse and addiction is the lack of motivation shown by drug dependents for entering therapy. What is the impact of a court order on treatment? There is a great deal of controversy about the way in which compulsory treatment can be used to raise motivation for changing to a drug-free life. The present data show a positive effect of court order in terms of treatment duration and planned discharges. This external pressure seems to prevent an early dropout and improves the probability that intrinsic motivation for abstinence will be developed. This raises the issue of further improving interventions with regard to self-motivation.

The individually orientated treatment approach fits the wide range of differences among the clients enrolled in this program. At this point in the study, it is difficult to outline indicators for outpatient, drug-free treatment. Single factors like social integration, duration of dependence, abstinence at the beginning of therapy, and previous treatment experiences do not have the expected prognostic value. It is likely that more complex factors have to be considered in determining indicators. These include hypotheses concerning the influence of the agreement between the client's expectations and the therapy goals, and the connection between initial reasons for enrolling in therapy and life events. Further research and the analysis of the follow-up data will test these hypotheses.

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13

Smoking Cessation Strategies

MARTIN RAW

This chapter offers a brief glance at smoking cessation strategies with the intention of being of practical use to workers in the field now. It is thus neither academic in tone nor exhaustive and inevitably reflects my own assessment of the current state of the art. It is my view, for example, that although we could continue trying to improve techniques for use in intensive treatment programs, we would be using our resources more responsibly if we concentrated on developing and disseminating what we already know. Leventhal and Cleary (1980) suggested more than 5 years ago that refinements of current approaches were unlikely significantly to increase success rates and that future work should consider theories of nicotine dependence. I agree with this and feel that, in the intervening 5 years, important and useful work has been published that has put potentially useful tools in the hands of workers.

One of the important tools, which arises directly from considering the role of nicotine in smoking, is nicotine chewing gum, so that this chapter will devote considerable attention to it. Another area that has seen considerable activity is that of the role of health professionals, especially family practitioners. Since the influential work of Russell and his colleagues was published (Russell, Wilson, Taylor, & Baker, 1979) on the potential of GPs as smoking cessation advisors, several studies have been published developing the theme. As far as intensive treatment methods go, for use in smokers' clinics or cessation groups, the most

MARTIN RAW • Psychology Department, St. George's Hospital Medical School, London SW17 ORE, England.

significant advance has probably been the addition of nicotine gum to behavioral strategies.

Finally, the least studied smokers of all, those who stop without formal help, are now beginning to be studied. Although we know relatively little about them yet, they are of obvious interest. Are they able to stop because they use better strategies than others, or are they different kinds of smokers (less dependent, for example) whose efforts have few implications for those unable to stop so easily? The answers are not yet clear, though Marlatt and Gordon (1985) have already shown something important and potentially useful: those who do not stop smoking immediately on trying, do not all give in. There is a lot of change between 4 months and one year. This has implications for those helpers, like GPs, who may be in contact with them.

A selective look at smoking cessation thus follows, preceded by a simple model of cessation to set cessation in its place. Apologies are offered to those whose work or approach has been left out. No slight is implied at all, merely the desire to produce something immediately useful for the practicing worker needing to counsel smokers about cessation.

THE CHANGE PROCESS

This conceptual framework represented by the figures that follow has been drawn loosely from research and from clinical experience. Although the language is different from that of Prochaska and DiClemente (see Chapter 1), it fits their model quite well, seeing smoking cessation as a process that goes through various stages. Figure 1 suggests a precontemplation phase (consonant smoking), contemplation (Phases 2 to 5), action (4 to 6) and maintenance (cessation to eventual success).

A current theme in the smoking cessation field is the need for an integrated approach. This would recognize the distinct contribution of different approaches and stress that as many of them should be pursued as possible in order to reduce smoking prevalence (Kunze & Wood, 1984). It also recognizes (implicitly if not explicitly) a model of smoking and of the smoker based on at least two underlying principles: that there is an intimate and dynamic relationship between smoking attitudes and behavior; and that stopping smoking is a process. The order of events is not necessarily that shown in Figure 1 and the process can take a long or a short time.

An example of the dynamic interaction between attitudes and behavior is that providing help for someone in stopping smoking may

PHASE		PROMOTED BY
1. CONSONANT SMOKING Healthy, generally younger smokers	↓ ATTITUDE CHANGE	Health education of all kinds
2. DISSONANT SMOKING Early attitude change: "It might be a good idea to stop."		
3. DISSONANT SMOKING Continuing attitude change: "I ought to stop."		
4. FIRST DECISION "I will try to stop."		----------
5. SECOND DECISION "I will stop."	↓	Continuing education Advice of respected figure (e.g., GP)
6. ACTUAL ATTEMPT TO STOP Translating resolve into action	BEHAVIOR CHANGE	Expectation of success ----------
7. CESSATION Eventual success (implying maintenance) probably after several attempts	↓	Availability of necessary resources (e.g., willpower, informal support, and, occasionally, formal support)

FIGURE 1. Stopping smoking as a process.

increase their motivation to stop. It is possible for smokers to believe smoking is dangerous and yet not even try to stop because they believe they have no chance in succeeding. In that case, it would be no good merely flooding them with more leaflets, advice, and persuasion. They may need practical help to reduce their dependence so that they are able to stop. The availability of help rather than health education would affect their motivation to stop.

The second underlying principle is also shown in Figure 1. In the first phase smokers are basically healthy, young (likely to be under 30), and have no worrying symptoms related to their smoking. Phases 2 to 4 represent the first part of attitude change and are likely to be brought about by information, education, and, possibly, increasing symptoms. It should be noted however that the decision to *try* to stop is not the same as the decision to stop. We know from survey data that up to 75% of smokers feel they ought to stop and/or have already tried to do so. Deciding to stop is a qualitative step further and we know relatively little about what enables smokers to succeed, except of course for those that seek help. If health education in the broadest sense has pushed smokers to the point of wanting to try to stop smoking, then other factors, like the availability of support, seem likely to convert that intention into real

commitment to stopping and to behavior change. Of course, the support might come from a variety of sources: family, friends, colleagues, health professionals and even, in some cases, cessation groups.

Figure 1 suggests that the first part of the process of stopping smoking is, broadly speaking, attitude change and the second part behavior change, and that, on the whole, health education is most relevant to the first part. There is clearly some confusion about how the second part can be promoted. Conceptually, translating attitude change into behavior change depends on the availability of appropriate resources. These might be internal, like "will-power," or external, like support from others. Obviously these are not mutually exclusive. Some commentators have implied that because many millions of smokers have stopped smoking "without help" there is no real need for the provision of help. This is illogical. The existence of smokers who do not need help in stopping does not deny the existence of those who do. Nor does the fact that those who need help are in a (large) minority mean they are not worth helping. In fact, the smokers most in need of help in stopping are the heaviest smokers and thus the most at risk. Helping them stop may make a real contribution to the reduction and cost of smoking related disease (UICC, 1969).

The process of stopping smoking could, in principle, happen almost overnight or it could take years. It is complex and in each individual it will be affected by different factors, to different degrees, at different times. The overall aim of smoking cessation programs is to enhance the process as strongly as possible at as many points as possible.

MOTIVATION FOR CHANGE AND DEPENDENCE

Figure 2, derived from Russell's (1977) work, shows where the different approaches to smoking cessation might contribute. It characterises smokers according to two major dimensions—their motivation to stop and their dependence. Although for descriptive purposes they are presented in the figure as independent dimensions, it seems unlikely in practice that they are completely independent. Extreme dependence (real or perceived), for example, might undermine determination to stop smoking. Those who have run smoking cessation groups will recognise smokers who claim sincerely to want to stop but, when asked if they feel they will, answer evasively with "I hope so" or "I'll certainly try," not because they do not really want to stop but because they doubt their ability to do so. Again broadly speaking, it is the function of education to motivate people to stop smoking (to move them from the bottom to the

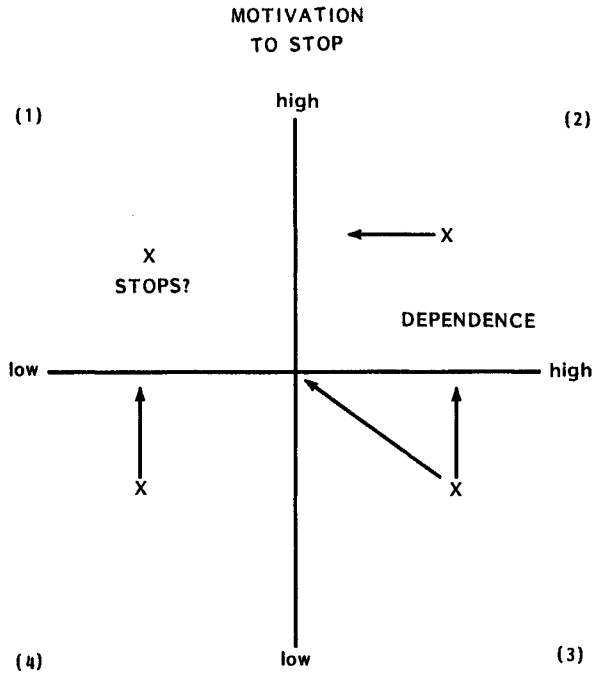

FIGURE 2. Motivation for change and dependence.

top half of the figure) and the function of support to reduce their dependence (right to left).

In terms of Figure 2, smokers in the top-right quadrant (2) are dissonant—they want to stop smoking but are too dependent to achieve this goal without help. Smokers in the bottom half (3 and 4) do not want to stop smoking, so the first approach needed with them is educative and persuasive. Those in the bottom-left quadrant (4), the lighter social smokers, should respond to health education by stopping, as several millions have in the United Kingdom over the last 5 to 10 years. Those in the bottom-right quadrant (3) should find, once they respond to health education, that they need further help to achieve abstinence. This help should ideally be offered at various levels according to their needs. In theory, there should not be any smokers in the top-left quadrant (1), or they should be in the process of giving up. An integrated approach to smoking cessation could be developed from this conceptual framework.

Perhaps it should also be noted that this conceptual framework makes no assumptions about the causes of tobacco dependence. These are complex and include psychological, social, economic, and pharmacological factors. The relative importance of these factors in maintain-

ing smoking and in predicting how best to help people stop is not yet understood perfectly. There is certainly strong evidence that nicotine is a powerful factor affecting the way people smoke and that it is addictive (Russell, 1976; Russell & Feyerabend, 1980). However, another reason why it is difficult to remain abstinent after stopping is because smoking is still so widespread, as are the pressures to smoke, including tobacco advertising. The steadily increasing social acceptability of *not* smoking must be making it easier for many smokers to stop, even those so "dependent" that they need professional help. Perhaps it should be emphasized that, just as health education encompasses a wide range of activities, not all conducted by health education professionals, so also is *support* a very broad concept. There are many ways of offering support to people who want to stop smoking, some of which are now mentioned.

THE MERITS OF SIMPLE INTERVENTION: DOCTORS' ADVICE

Russell *et al.* (1979) showed that, in response to simple advice to stop smoking, with a warning of follow-up, 5% of smokers stopped for at least a year (0.3% in the nonintervention controls). This work was followed up by a more recent study in which the offer of nicotine chewing gum was added to the stop-smoking advice. The success rates in this more recent study (using a slightly different but still fairly stringent criterion of outcome) were 4% in the nonintervention controls, 4% in the advice group, and 9% in the advice plus nicotine gum group (Russell, Merriman, Stapleton, & Taylor, 1983). Promising results have also been shown in general practice by Jamrozik and his colleagues, without (Jamrozik *et al.*, 1984) and with (Jamrozik, Fowler, Vessey, & Wald, 1984) nicotine gum.

Family practitioners are important not just because of the abstinence rates they can promote but also because of their access to smokers. Within a year, 75% of the population will visit their GP (90% within 5 years), so that even modest improvements in effectiveness could yield great benefits in numbers of ex-smokers. Fowler (1983) has suggested that the GP can offer advice when requested; seek the opportunity to offer advice in any consultation; advise on how to stop; supplement advice with appropriate literature; follow-up attempts to stop; and offer nicotine gum to those who need it. The advice offered should include reference to presenting medical problems when possible; information about the health hazards of smoking; emphasis on the benefits of stopping; a reminder that there is no magic cure; a plan to include a target date for stopping; ways to prepare for stopping, ways to cope with

difficulty after stopping; a warning of the dangers of relapse; and an explanation of the need for follow-up.

Catford and Nutbeam (1984) have shown that nicotine gum is already the cessation aid GPs are most likely to offer smokers in the United Kingdom. The time seems ripe therefore to intensify our efforts to make a successful treatment aid—nicotine gum (Raw, 1985)—more widely and effectively used by those who in most countries have access to it—doctors. And if doctors are important in this regard, other health professionals may also have important contributions to make to smoking cessation, especially nurses as educators/advisors (Llewelyn & Fielding, 1983) and clinical psychologists, probably as helpers (Jerrom & Simpson, 1983). The latter have been particularly heavily involved in the development of nicotine gum as a cessation aid in smokers' clinics, and may prove important in briding the gap between what has been achieved in this specialist setting and in general practice.

MUTUAL AID IN THE CHANGE PROCESS: CESSATION GROUPS

Smoking cessation groups are, essentially, mutual aid groups (what used to be called "self-help" groups) (See Robinson, Chapter 13, this volume). Some of them function without any professional leader, though most are led by trained professionals, some as part of community programs like the North Karelia project (Puska, Koskela, & Bjorkvist, 1979) and some in formal smokers' clinics. Although there is some debate about the role of such groups, they can be useful, not just in helping people stop smoking but for training others in cessation counseling skills and as a back-up resource for community programs. A detailed description of United Kingdom smokers' clinics (recruitment, methods, outcome, history, and role) has been presented elsewhere (Raw & Heller, 1984) and is beyond the scope of this chapter. A few comments are in order, however, on the evidence for the effectiveness of nicotine chewing gum as an aid to smoking cessation.

In specialized smokers' clinics extremely encouraging results have been achieved with nicotine gum, with one year abstinence rates as high as 47%, 49%, and 50% in some studies and clear evidence of a specific effect over and above that of placebo. In these studies the gum was given with support and encouragement (mostly in groups), expert guidance, and careful monitoring of progress in courses lasting from about 3 to 13 weeks. When nicotine gum is given with minimal or with no support, as an adjunct to advice, then overall abstinence rates go down. This is not surprising: They go down as a result of the decreased intensity of the intervention. The effect has nothing to do with the gum itself.

Used by doctors as an adjunct to cessation advice, the gum has been shown to be effective, but the relative contribution of specific and placebo factors to this have not yet been elucidated. This evidence is summarised in Raw (1985).

TOWARD AN INTEGRATED CESSATION STRATEGY

Smoking prevalence is falling steadily in many western industrialized countries and, although this trend conceals a variety of processes, we know that people are giving up smoking. We also know that most of these are doing so without the help of formal, professionally run cessation programs. Clearly then, health education, understood in very broad terms, is succeeding in persuading people to stop smoking—a remarkable achievement considering the resources ranged against health interests. However, we do not know how far the trend will continue, whether it will accelerate or slow, and what progress we will make in dissuading children from starting smoking. It would be foolish to become complacent. In the United States and United Kingdom there are still some 60 to 70 million smokers, contributing to tomorrow's personal, social, and health care costs and serving as models for today's new generation of smokers. We would be wise to continue pursuing as broad a cessation strategy as possible, advising and helping people to stop smoking alongside our efforts at primary prevention, and we would be wise also to continue to provoke social, political, and economic change.

Smokers' clinics have played a crucial role in developing nicotine chewing gum as a cessation aid. This research role may continue to prove valuable in a small number of them but, as an integrated part of a local community's overall smoking prevention program, they may be more valuable as a training and back-up resource for health professionals. And these, especially GPs and community nurses but also hospital doctors and nurses, dental practitioners, psychologists, and many others, have a crucial role to play. Their daily work provides many opportunities to counsel and support and this work could be much improved by what we already know.

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14

Mutual Aid in the Change Process

DAVID ROBINSON

INTRODUCTION

Jim Prochaska, in his opening chapter to this book, outlines a route "towards a comprehensive model of change in the addictive behaviors." On the way he rightly distinguishes between "change within therapy" and "individual self-change," points out that improvement in therapy and improvement outside of therapy appear to involve the same stages and processes, and concludes that by taking seriously the successful efforts that individuals make *without* therapy a "transtheoretical model of change" can be enhanced.

In this chapter, I discuss neither change within therapy nor individual self-change but focus instead on mutual aid—or mutual self-change. This may constitute a useful footnote to Prochaska and DiClemente's comprehensive model of change.

Although this volume is concerned with addictive behaviors, this chapter draws on material from a broader range of health concerns in order to identify the specific processes at work in mutual-aid projects or in the activities of some particular mutual-aid groups. Much of the literature in the mutual-aid field is focussed on specific groups set up to address specific health problems. Much of this literature is written as

I am grateful to the Medical Council on Alcoholism for permission to reproduce in one section of this chapter material from D. Robinson (1983) The Growth of Alcoholics Anonymous, *Alcohol and Alcoholism, 18*(2), 167–172.

DAVID ROBINSON • Addiction Research Centre, University of Hull, Hull HU6 7RX, England.

though the processes involved in a specific mutual-aid group are unique. It is clear, however, from work over the past decade that issues of identification, coping through activity, destigmatization, and a variety of kinds of sharing are common to a wide range of self-help and mutual-aid enterprises.

Many professionals, who have not had the opportunity of working closely with mutual-aid groups, imagine that they are "out there" waiting to be used or that they, the professionals, can start, develop, or "facilitate" mutual-aid groups as part of their professional activity. Many professionals also believe, or by their actions imply, that all mutual-aid groups are the same in the sense of seeking standardized relationships with professionals. Part of the purpose of this chapter is to indicate, in addition to the similarities across mutual-aid groups, the differences between mutual-aid groups, which professionals must take into account when seeking to work with them. The two case examples of Alcoholics Anonymous and the Clubs for Hypertensives illustrate several of these issues.

THE GROWTH OF MUTUAL-AID GROUPS

Medicine, as practiced in developed countries, is seen by many people as a threat to health, not merely in the technical sense of malpractive, clinical iatrogenesis, and inappropriate treatment, but in the wider sense of diverting attention from the social-structural and environmental causes of ill-health. Not surprisingly, there has been a growing hostility towards any health care system that undermines the power of individuals to care for themselves or shape their own environments. Nor is it surprising that there has been a rapid and substantial growth of mutual-aid groups, often called self-help groups, which now represent a significant feature of contemporary life.

A good deal of attention has certainly been given to self-help and mutual aid by professionals, governments, interested lay people, and the media. There is now hardly any wide circulation magazine or professional journal that has not carried an article on some mutual-aid group. In addition, several World Health Organisation publications have set out the philosophy, organization, and achievements of many alternative approaches to meeting basic health needs (WHO/UNICEF, 1978; Djukanovic & Mach, 1975; Newell, 1975). An excellent collection of articles was published by WHO EURO in 1983 under the title "Self-help and Health in Europe" (Hatch & Kickbusch, 1983) whereas from across the Atlantic, again in 1983, an equally excellent collection of papers re-

minded us with its title, "Rediscovering Self-Help" (Pancoast, Parker, & Froland, 1983) that mutual aid is, of course, as old as human history.

WHY THE INTEREST IN MUTUAL-AID GROUPS NOW?

Most answers to the question, Why the increasing attention to mutual aid now? identify it as a reaction to some inadequacy, need, problem, or changing situation. Some have argued that the growth of mutual aid is a response to the decline of existing institutions and the need to "fill the gap." Mowrer (1971), for example, noted the decreasing importance of the established church and sees mutual-aid groups as "the emerging church of the 21st century." Others see the decline in the extended family system and close-knit communities as bringing about a need for new ways of providing and sustaining emotional and social support. Increasingly, the argument is heard that the emergence of mutual aid is a response to the disillusionment with, and unfulfilled promise of, the helping professions (Back & Taylor, 1976) and, in the United Kingdom, the welfare state. Some, for example, assert that mutual-aid groups and other "consumer-initiated services" arise when "a hiatus exists between felt need and the existence of available services . . . adequate to meet such a need" (Gillie, Price, & Robinson, 1982). Others suggest, somewhat more sceptically, that the "gaps" have arisen because of the inevitable fallability of medical science, with many groups growing up around those people who feel abandoned by the clinical services either because they represent its failings or because they have socially unacceptable problems (Zola, 1975).

In addition to the alleged failure of traditional institutions, there have been those who locate the growth of mutual aid in relation to changing philosophical and social ideas: for instance, coincident with a changing social conscience toward disablements following World War II; as part of an alternative culture, reflected in a broader decentralization and debureaucratization of public life; or as part of a "power-to-the people" movement, itself a product of the cultural shifts of the 1960s. For Katz and Bender (1976) in their seminal book *The Strength in Us* a mixture of these and other social forces has combined to make mutual aid "the most important social phenomenon in recent years." They say that industrialization, a money economy, the growth of vast structures of business, industry, and government have led to the depersonalization and dehumanization of institutions and social life; feelings of alienation and powerlessness; the loss of choices and a loss of identity. Mutual aid is one of a number of social movements that, according to Katz and Bender, have arisen to counter this trend.

Although these global explanations may make sense, another layer of understanding of the question Why mutual aid now? may be got from looking at the emergence of particular groups. It is clear from an inspection of the literature produced by the groups themselves that a whole range of people and agencies were in some way involved with setting them up. There were the people who shared the problem, their intimates, various categories of professional and voluntary helpers, government departments, local authorities, community and voluntary agencies, and the media. Five major themes in the groups' accounts of their own origins tend to recur. These are the identification of a shared problem; the failure of some helping agency; the recognition of the importance of contact between those who share a common problem; innovations of some sort in the handling of the shared problem; and, finally, the role of the media in bringing to light the extent of the shared problem, or some innovative attempt to solve it.

Most mutual-aid groups mention the media as playing a key role in some way. Depressives Associated, for example, started as a result of thousands of letters sent spontaneously in response to Nemone Lethbridge's television play *Baby Blues*, which dealt with postnatal depression. Open Door started in 1965 after a woman with agoraphobia in Macclesfield, a small town just south of Manchester, placed a small advertisement in her local newspaper, received a number of replies from other agoraphobics and within a year found herself at the heart of a rapidly expanding national organization.

Some groups, such as the Ileostomy Association, the Society for Skin Camouflage and the Possum (lung machine) Users Association tie their origins or development to some professional innovation, whereas a small number of others say that they were set up to enable some professional to do what otherwise would have been impossible. Recovery Inc. is interesting and unusual among well established mutual-aid groups in its readiness to acknowledge the role of an outsider, and a professional at that, in its foundation (Antze, 1976). But with the histories of mutual-aid groups we must remember that we are dealing with just that, histories; and the purpose of history is, of course, to produce statements about the past that can be used in the present. And for most groups it may be more in line with their beliefs about the nature and purpose of mutual self-help to drop references to the involvement of professionals and outsiders from their accounts of time past.

THE RANGE OF GROUPS AND THEIR CORE CHARACTERISTICS

Some groups, such as Alcoholics Anonymous, are well known, long established, and well researched (Bean, 1975; Robinson, 1979). But

there are thousands of newer, some less well known, groups as well—for schizophrenics, for people with skin diseases, for phobics, for smokers, the anxious, the depressed, gamblers, people with hypertension, people with cancer, child batterers, widows, parents of handicapped children, people who eat too much and those who refuse to eat at all, and many more besides, including the delightful—but as yet unconfirmed—Analysands Anonymous: "open to anyone who has been in analysis for twelve years or longer and needs the help of a power greater than their own—or that of their analyst—to terminate the analysis" (Hurvitz, 1970).

Just as the groups themselves have multiplied, so has the number of directories that attempt to draw together the vast amount of rapidly changing information about which mutual-aid groups exist, where, what they do, with whom, and why (Darnborough & Kinrade, 1977; Knight, 1970; Moorhead, 1975; National Council for Voluntary Organisations, 1982; Patients Association, 1982; Robinson & Robinson, 1979; Share Community, 1980; Thames Television, 1978; Todd, 1982).

Not surprisingly, given the wide variety of mutual-aid activities, there have been almost as many attempts to define mutual aid as there are groups. In 1976 two major international journals, the *Journal of Applied Behavioural Science* and the *Journal of Social Policy* published special issues devoted entirely to mutual self-help. 1976 was also described by one commentator as "a bumper year for new books on self-help" (Briggs, 1977). More importantly, however, it was the year in which some attempt was made to draw together the large number of accounts of particular mutual-aid groups in order to find their common characteristics (Caplan & Killilea, 1976; Katz & Bender, 1976). This has gone on ever since (Gartner & Riessman, 1977; Hatch & Kickbusch, 1983; Lieberman & Borman, 1979; Richardson & Goodman, 1983; Riessman & Gartner, 1981; Robinson & Henry, 1977).

One of the best reviews is still that written by Killilea (1976) who, as well as extracting from the literature 20 different "categories of interpretation" of mutual aid, identified seven characteristics of groups and their processes to which writers had given particular emphasis. These are as follows:

1. *Common experience of members:* the care giver has the same disability as the care receiver;
2. *Mutual help and support:* the individual is a member of a group that meets regularly in order to provide mutual aid;
3. *The helper principle:* in a situation in which people help others with a common problem it may be the helper who benefits most from the exchange;

4. *Differential association:* the reinforcement of self-concepts of normality, which hastens the individual's separation from commitment to their previous deviant identities;
5. *Collective will power and belief:* the tendency of each person to look to others in the group for validation of their feelings and attitudes;
6. *The importance of information:* the promotion of greater factual understanding of the shared problem as opposed to intrapsychic understanding; and finally—and most importantly—
7. *Constructive action towards shared goals:* mutual-aid groups are action orientated, their philosophy being that members learn by doing and are changed by doing.

HOW MUTUAL-AID GROUPS WORK

In order to understand what mutual-aid groups do, we need to look not just at the descriptions and analyses by outsiders, but also, as with the accounts of their origins, at the descriptions and explanations of the groups themselves. Four major themes tend to recur: identification, sharing, coping with practicalities and stigma, and change through activity.

IDENTIFICATION

Great stress is always put on the common problem, position, or circumstance, often expressed colloquially as "being in the same boat." Being in the same boat means, first of all, understanding the problems of others; that is, knowing what it is like. It is said that only those experiencing the problem can *really* understand. As the founder of CARE, the Cancer Aftercare and Rehabilitation Society, put it:

> The organisation consists in the main of cancer patients—people who know what it is like to have cancer, who know the problems, mental and social, associated with the disease. These people we feel are best fitted to give moral assistance and help to patients and families before and after treatment. (Robinson & Henry, 1979, p. 48).

SHARING

It is this understanding based on common experience, say the groups, that produces the necessary common bond of mutual interest and common desire to do something about the problem. And the basic ingredient of this "doing something" is collectively helping oneself. As

SHARE, a mutual-aid group for the disabled, says: "To help others *is* to help yourself."

In addition to helping yourself collectively and helping yourself through helping someone else, great stress is put on the importance of example in the sharing and copying of experiences, a point that is succinctly expressed again by the cancer group CARE: "What better therapy then seeing someone who has had exactly what you have got and who is partcipating in normal activities, work and social life."

Being in the same boat, knowing what it is like, sharing experiences, and helping yourself by helping others all add up to the "fellowship" that Hurvitz (1970) takes to be the key feature of mutual-aid groups: "Within such relationships and in the presence of members who acknowledge the help they receive through fellowship," he says, the members "make it possible and desirable to accept each others efforts to modify their own and others behaviour." In this fellowship lies the essence of mutual self-help, which Mowrer (1971) sums up as "You cannot do it alone, but you alone can do it."

In most groups, sharing means the sharing of information and common experiences. The mechanics of sharing range from formal group meetings through the no less important informal meetings between group members, to telephone contact networks, correspondence, news letters, tape exchanges, or even radio contacts when the members are geographically dispersed or prevented by their shared problem from meeting face to face.

Coping With Practicalities and Stigma

Paradoxically, the first stage of getting rid of or coping with the problem is to concentrate on it. For although it is easy for a group to proclaim, "We are all special together," it is difficult for newcomers to share that feeling. New members have to be encouraged to accept that they "are", or "have", whatever is the focus of the group's concern, and even encouraged to make public declarations to that effect. In Gamblers Anonymous, Alcoholics Anonymous, Parents Anonymous, Neurotics Anonymous, and Smokers Anonymous, members introduce their contribution to the meeting by saying, "My name is Joe and I am a compulsive gambler," or whatever. Parents Anonymous says that the easiest method of coming to accept the problem is for new members to declare, "I've got problems as a parent and I want help. My problem shows itself in the form of . . . ," whatever the form of abuse the new member feels has been shown—verbal, emotional, physical, sexual or neglect. It then recommends that the person asks other members for help to overcome these problems. Once the public declaration has been

made the feeling of relief can be enormous. Many groups say that the relief of "publicly" sharing the problem is their members' single most important experience.

Once the problem is settled on, admitted, and brought out into the open, group members can begin to cope with it by, first of all, sharing information about practical solutions to specific difficulties. This may concern physical aids, procedures, diets, or official agencies and rights—in short anything that makes it more possible to handle the practicalities of the shared problem. Clearly, the range of specific practical aids being used in mutual-aid groups is immense.

The most difficult task for many groups is to cope with the stigma of their shared condition. One way of destigmatizing the problem is by changing members' self-perception, a feat partly achieved by meeting others in the same situation and therefore feeling less odd. The National Council for One Parent Families, consider that their groups have a double value to lone parents and their children in providing the mutual support that is so helpful, and also helping the children to realise that there are many lone parents and that they, the children, are not in any way unusual.

In addition, it is common for all groups to direct their destigmatizing efforts towards changing those who are seen as the cause of the stigma—the general public, society, or just "all those who do not understand." The Breakthrough Trust, for example, aims to bring deaf and hearing people into realistic contact with each other and so alleviate much of the isolation, apathy, and frustration that deafness imposes. By working together on equal terms, "deaf and hearing people," says the Trust, "educate each other in the skills of communication and consequently a deeper understanding is gained"—because, of course, "deafness is not just a problem for the deaf, it is a hearing person's problem too."

Coping with stigma, then, involves first of all the realization that you are not alone: There are others like you and they understand and appreciate your problems, ideas, and aspirations. But coping with stigma involves mutual-aid groups in much more than this. People as well as problems have to be dealt with. Members often have to be encouraged to relearn, or even learn for the first time, that they have a value, a contribution to make, and a full place to occupy in the social world. Outsiders have to be made to understand the members' problems, both practical and personal, to give care and support, and to appreciate that having the problem does not invalidate a person's membership in the human race.

Change Through Activity

A mutual-aid group is not just a place where people help each other to cope with the practicalities and stigma of "their problem." Although these are very important parts of what groups do, of course, they can provide much more. As well as helping to diminish the importance of the problem, mutual-aid groups can enable their members to change—to begin to build up a new way of everyday life through being involved in a wide range of group activities.

At one level, group activities are geared to helping to solve the group members' specific problem—be it having cancer or a mentally handicapped child, being disabled or depressed. But those who feel that they have really benefitted from being in a mutual-aid group speak of "getting involved," "making a contribution," "doing things for the group," and so on. In most groups there is a whole range of activities in which most members can become involved.

In addition to the usual offices—chairperson, secretary, treasurer—there will be members who arrange the meeting place, or send out notices, or handle publicity, or speak on a particular topic, or make the tea, or put out the chairs, or reply to queries from interested health workers or members of the general public, or collect contributions. It is easy to see how almost everybody in a mutual-aid group, whatever their physical or mental capabilities, can have their own tasks to perform and their own things to be responsible for.

It is easy to see also how being involved in group activity can help to rebuild confidences and help members to realize that in spite of their problem they still have some value, something to offer, a contribution to make. Many people with severe and long-standing problems feel this for the very first time in their lives in a mutual-aid group.

Sharing experiences, giving support to each other, and working together provides an ideal opportunity for new friendships to develop. On the basis of friendships made in mutual-aid groups, members begin to build up a network of relationships and activities outside the groups that are, nevertheless, still based on the support and understanding that the group provides. The value of the outside social activities is not just to pass the time or to have fun, although both of these are important. The real value comes from the fact that people who help each other to handle their particular problem can help each other in many other ways as well. Every group, whatever its "problem," is likely to have a range of skills and expertise at its disposal. Almost everyone can be a resource for the group or for a small collection of friends in relation to some aspect of everyday life. And having been involved together in mutual-aid group

activities, the framework is there for making these other resources available to the wider community.

Mutual-aid groups, then, are more than huddle-together sessions for people who feel discriminated against, or overwhelmed by a common problem or by some aspect of late 20th-century life. Mutual help offers most to people when it manages to combine reciprocal support for those who share a common problem with activities and schemes that encourage personal change and development, and enable people to influence the quality of their everyday lives.

FROM MUTUAL AID TO HEALTH: CASES IN POINT

A large proportion of the mutual-aid groups in developed countries, particularly in the United States, Canada, Britain, Scandinavia and other parts of Western Europe, operate quite independently of the formal health services. In fact, the impetus for the establishment of many groups has been the lack of adequate understanding, care, treatment, or support from the various health professions. This immediately raises the question for those concerned with services of whether these "independent" groups can contribute to a coherent and comprehensive primary health care system in anything other than a purely ad hoc manner.

Evidence from various parts of the world shows that health services at the local level do accommodate and respond to the activities of even the most independent of groups when those groups are clearly providing an important element of primary health care. Alcoholics Anonymous, for example, has developed into an international network of tens of thousands of groups in over a hundred countries that cooperate with formal health and social services in an attempt to provide comprehensive care for those with drinking problems, and yet A.A. retains complete control over its own philosophy and group activities.

Alcoholics Anonymous

The A.A. mutual-aid process of "talking out of alcoholism" (Robinson, 1979) is well understood. Suffice it to say that, at a personal level, the program aims at transforming the dependent, isolated, drinking alcoholic into an independent, integrated, sober alcoholic. At an organizational level, A.A. aims at being self-reliant, self-sufficient, beholden to no one and dependent on no one. It remains uninvolved in outside political or social issues, although it cooperates closely with other bodies in order to bring as many people as it can to its view of sobriety. A.A.

calls this cooperation "being friendly with our friends" and distinguish it from "affiliation"—an unacceptable notion.

The question is often raised as to whether Alcoholics Anonymous can really operate outside the particular sociocultural context in which it originated. It only requires a glance at the national and international directories to see that, on a worldwide scale, Alcoholics Anonymous has groups in catholic and protestant countries, in developed and developing countries, in beer-producing and wine-producing countries, in countries with private medical care and in those with state health care systems (Robinson, 1983). But although A.A. is widespread, its development has, naturally, been uneven. It is thin in Africa outside South Africa and Zimbabwe. It is also thin in Eastern Europe, although there are the well-known alcoholic clubs in Yugoslavia and elsewhere that operate on somewhat similar lines to A.A. In the Middle East and India many of the members are employees of foreign firms, whereas in Asia many of the groups are started by the United States forces. But in all areas of the world the number of groups is growing. This has been particularly the case over the past decade in Central and South America.

In Mexico, for example, there were A.A. members meeting sporadically ever since 1941, and a regular English-speaking group was started in 1946. It was not until 1956, however, that the first Spanish-speaking group emerged. By 1969 there were 181 groups. Since then the development of A.A. in Mexico has been very rapid indeed. The 181 groups in 1969 grew to 928 groups in 1974, and to almost 6,000 groups by the end of 1984.

To give some idea of the spread of A.A., there are now approximately 1,000 groups in Australia, 250 in New Zealand, 30,000 in the United States, 1,000 in Germany, 115 in Trinidad, 2,000 in Great Britain, 500 in Finland, 1,000 in El Salvador, 200 in Belgium, 120 in India, 650 in Ireland, 120 in Iceland, 700 in Guatemala, 2,000 in Brazil, 250 in France, 200 in South Africa, 400 in Nicaragua, 75 in Japan, and 30 in Poland.

Given what we know about how A.A. works and what is required of members in personal and social terms (Robinson, 1979), it is possible to identify certain features of the mutual-aid process that may be more acceptable in some cultures than in others.

Alcoholics Anonymous, like many other mutual-aid groups, is based, as was pointed out earlier, on a philosophy of independence. The problem, however it arises, is seen to be the property of individuals and, as such, is held to be within their own power to overcome, albeit with the support of fellow sufferers.

The mutual aid process of Alcoholics Anonymous also demands openness in several crucial ways. First, members have to be open with each other about their past, their activities, their relationships, and their

emotions, in order to create the necessary common bond of shared experience and understanding. Second, A.A. operates an open membership policy in which personal and social attributes that normally distinguish people from each other are played down whereas the one thing that members share, their alcohol problem, is emphasized. Third, members of A.A. have to be open to the possibility of change, because it is an essential part of mutual aid for members to help each other to change, to some extent, their self-perception, their network of friends and relationships, and even the style and content of their everyday life.

Alcoholics Anonymous, then, demands that individuals, with the support of the group, take responsibility for their condition, their everyday life and, thus, their destiny. They do this in a mutual-aid process that requires them to be totally open about themselves with other members, who may be of a different sex and very different in terms of politics, race, socioeconomic status, age, and religion. They also have to be willing to accept that changes in several aspects of everyday life are not only desirable but essential. So, clearly, any culture that puts a very high permium on privacy in emotional or social terms, or in which people are tightly fixed in complexes of highly differentiated roles and relationships, will find it less easy than others to accommodate the core principles and practices of the mutual-aid process of groups like Alcoholics Anonymous.

In contrast with the most independent groups such as A.A., other mutual-aid groups and organizations are very much the brainchildren of health workers who remain closely involved with them. This too raises several important questions. To what extent are these mutual-aid or self-help groups in the usual meaning of the phrase? What role do the health workers play in the everyday activities of the group? How able are the groups to develop structures and procedures that best suit the needs of their members? What are the implications of being so closely involved with the formal health services—for the groups, the members, for the neighborhoods in which they are situated, and for the development of more satisfactory systems of primary health care?

Clubs for Hypertensives

The clubs for hypertensives in Zagreb, Yugoslavia, provide a clear illustration of both the disadvantages and the advantages of mutual-aid enterprises in which professional health workers are closely involved (Hatch & Kickbusch, 1983. pp. 107–117).

The original role of the health workers was to get the clubs started, to encourage the election of officers, to train the members in self-monitoring techniques, and to provide guidance and aid. There is no

doubt that the clubs are now very successful within those strict limits in which they were established. They have gathered people together who can now perfectly adequately monitor and control their blood pressure. But it is also true that, although many new clubs are opening, many of the older clubs are becoming rather staid and set in their ways; membership is static, the same people have held office in some clubs ever since they began, and the same people tend to measure blood pressure at each meeting. The clubs, although self-governing, are still very much under the guidance of the associated professional staff.

It was one of the original aims of those who established the clubs that people should be members for only a limited time—a year or 18 months—after which they would have learned how to control their blood pressure and established a dietary, exercise, and relaxation regime which would maintain it at a satisfactory level. But, as the health workers have found out, once people come together and are encouraged to become a group in order to provide mutual support and encouragement to each other, they are not just going to fade away as soon as the problem has been brought under control. Individuals will have become a group and like it. Fortunately, given the enthusiasm of many club members and the interest and involvement of various health workers, there is now the possibility of responding to and building on this situation.

Both the members and associated health workers have ideas about how the clubs for hypertensives might develop into more general health education, care, and maintenance groups. One club has developed programs for diabetics and those with obesity and heart disorders. The members of another club have set up teams that do home visits to provide social care for elderly people and those who are handicapped. The members of a club that is based in a furniture factory screen their workmates and are beginning to assume basic health education functions in relation to smoking and other issues. A film about abortion, which had been shown in the factory, stimulated discussion about gynaecological problems and was taken by some club members and shown in their local neighborhood centers.

Once mutual-aid group members have learned the basic skills of controlling their blood pressure, or whatever their problem is, they can acquire more and more health skills and techniques in relation to everyday physical and mental health care. Subgroups of members can develop particular sets of skills and so become resources, not only for other group members but for their families, neighbors, friends, and workmates. In this way some mutual-aid groups, instead of being inward looking and concerned only with the particular problem that brought the members together, could, it is claimed, become the ideal settings for

the education and development of basic health workers. And certainly, group members, because of their own experience, are well-placed to understand that there are a great many technical and social skills that members of the general public can easily learn and that mutual aid and support is an essential component in the handling of the most modern health problems.

LIMITS OF MUTUAL AID

Many people believe that mutual-aid groups are paving the way for a radical change in the way everyday problems are handled, and even providing a blueprint for the construction of a new political order. But it does not take long to recognize that, for a variety of reasons, most mutual-aid groups seem neither inclined, nor likely to be able, to accomplish any great social changes.

One of the major limits to mutual aid in the health field is that most groups tend to operate with the same view of health and illness as conventional helpers. Problems, however they arise, are seen to be the responsibility of the individual. The core aim of both conventional help and most mutual self-help is to do something to, or with, people who "have" problems, in order that they might be better able to find their way around the world as it is. Those groups that look beyond the immediate concerns of their members do little more than press for some adaptation of the current professional or administrative system. They push for recognition of their problem, or for more humane, accessible, or competent professional treatment for their problem.

Concentration on individuals and their problems is, of course, an essential feature of the mutual-aid process. But it means, as well, that groups rarely focus their attention on any broader political issues. Their attention is much more likely to be given over to making sure that one is serviced properly, rather than to raising the question of whether one needs the service, or of what changes need to be made in order to make it less likely that the problem that needs servicing will arise at all.

Not only do most groups not look at broad causes of their problems but they may, by their mutual-aid activities, actually make them worse. Mutual-aid groups, it could be argued, provide an excuse for government authorities to avoid fulfilling their obligations. Suggesting that people attempt, with inadequate resources, to build up their own communities or provide their own services may divert them from seeking their full share of the resources of the entire society.

Clearly, everyone involved in mutual-aid groups, however, successful they feel they are in alleviating or handling the problems of their

members, should ask themselves the following question: Is what I am doing likely to increase or decrease the number of people with this problem? In other words, they must consider the extent to which they collude with the system that caused, maintained, or accentuated the problem in the first place. That is the core dilemma for everyone who gives help, whether they are mutual self-helpers or professionals.

Not surprisingly, some professionals feel very threatened by the growing number of mutual aid groups. Others, recognizing the value of particular mutual-aid enterprises, have proposed that professionals should become directly involved, that professionals should try to set up groups, and even that universities should train people to do this (Mowrer, 1971). Others, rather less enthusiastic, recognize that this could undermine that one value uniquely cherished by the mutual self-help group—its ability mutually to help itself.

CONCLUSION

Mutual-aid groups are a familiar and recently much discussed feature of contemporary life, and health workers in many countries have come to recognize the value of people with particular problems coming together to help each other to help themselves. Mutual self-help is misperceived, however, if it is seen merely as a temporary expedient or passing fashion, because mutual aid is, of course, as old as human history. People have always banded together to solve their common difficulties and promote their mutual interests in family networks, clans, tribes, guilds, professions, trade unions, friendly societies, clubs, and on street corners. Finally, mutual aid is grossly misperceived if it is seen as a poor second best to "fill the gap" for people who are starved of "real" services. For it is professional services, of course, that are the stop-gaps, filling in where basic mutual self-help needs some specific technical, organizational, or expert assistance.

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15

The Family in the Change Process

BARBARA S. McCRADY

The role of the family in the assessment and treatment of addictive behaviors has received careful consideration by researchers and clinicians. However, careful theoretical models have lagged behind. In this chapter, a social support framework will be used to organize consideration of the family's role in the treatment of addictive behaviors.

SOCIAL SUPPORT

Social support has been considered from several different perspectives (Colletti & Brownell, 1982). A social support network is basically a network of persons who serve certain functions for an individual. This network may include friends, family, neighbors, self-help or mutual-aid groups, members of the clergy, health care workers, etc. The network may help a person to feel cared for, loved, and valued; it may provide feedback to the individual about his or her beliefs or values, and it may provide a sense of belonging and a feeling of being connected to other people.

A social support network may serve many positive functions for a person. For example, having such a support network may attenuate the negative emotional reactions that an individual may have to life stresses. Studies have shown that individuals experience less depression associ-

BARBARA S. McCRADY • Center of Alcohol Studies, Rutgers University, Piscataway, NJ 08854.

ated with job loss if they have a positive support network. Positive social support also has an influence on the outcomes of medical treatments by shortening the recovery time from surgery, and by facilitating easier deliveries during childbirth (Colletti & Brownell, 1982).

Conversely, a lack of social support is associated with a number of problems, including increased morbidity, and more emotional problems. For example, it is not uncommon for a marital partner to die within several months of the death of the spouse. In severe emotional disorders, such as schizophrenia, a disturbed family environment or lack of a social support network is associated with more rapid relapses and rehospitalizations after psychiatric treatment (McGill, Falloon, Boyd, & Wood-Siverio, 1983).

Social Support and Emotional and Behavioral Problems

Social support appears to have an important general role in the maintenance of positive mental and emotional functioning. These observations of the generally positive role for social support have led researchers and clinicians to attempt to modify existing social networks to increase the supportive capacity of the network. These attempts are based on the belief that the spouse or family can be helpful to a person in their recovery from behavioral or emotional problems. It is also believed that it is possible to teach the spouse or family how to be supportive.

An alternative approach to conceptualizing the family's role in treatment has been to see the family as an integral part of the individual's problems. General systems-theory views suggest that an individual's problems are manifestations of the problems of a larger system, which is usually the family. The individual's symptoms are seen as symptoms of the system dysfunction, and treatment of the whole system is seen as primary. This emphasis is much different from the notion that the family can learn to help a dysfunctional individual, because the whole family is seen as being in need of help.

In the mental health field, a number of recent studies have examined the effectiveness of involving the spouse in the treatment of a variety of psychological disorders. For example, Emmelkamp and deLange (1983) reported a study of spouse involvement in the treatment of obsessive-compulsive disorders. They noted that the spouse often gets involved in the obsessive-compulsive rituals by reassuring the person that they are all right, or even by taking over some of the ritualistic activities, such as doing some of the cleaning that the partner requests, or by checking such things as whether the house is locked or the oven turned off. Emmelkamp and deLange note that when not involved in treatment, the spouse may impede the treatment process, and that the

ritualistic behaviors and the stress associated with these may also lead to significant relationship problems for the couple. Because of this formulation, they involved both spouses in the treatment process. The spouses were instructed in how to respond to ritualistic behaviors, and were also taught how to assist their partners in their homework assignments. No specific treatment interventions were directed at the couple's relationship. They found greater improvements in the ritualistic behavior at the end of treatment when the spouse was involved than when only the ritualistic partner was involved, but one month after the end of treatment these differences had disappeared.

In a similar study, Barlow and his associates (Barlow, O'Brien, & Last, 1984) considered the role of the spouse in the treatment of agoraphobia. They noted that the spouse often becomes a "safe" person for the agoraphobic, becoming the only person with whom the symptomatic partner will leave the house, drive, or perform other feared activities. Partners often do not know what to do when the demands on them become greater—they do not know how much they should take over responsibilities or push their spouses to maintain responsibilities. They do not know how much to accompany and reassure their spouses, and they do not know what to do or say during a panic attack. Barlow *et al.* involved the spouses in the treatment program primarily to assist their partners in carrying out homework assignments, and also instructed them in how to respond to the panic attacks and demands of their agoraphobic mates. They found significantly more agoraphobics improved after spouse-involved than non-spouse-involved treatment (12 of 14 versus 6 of 14).

In considering the effects of depression on the marital dyad, Cayne (1984) noted that depressed behavior produces negative moods in others. Depressed persons attempt to elicit support from others, and often induce guilt in those around them. At the same time, people close to a depressed person may feel that expressing anger is inappropriate, and they may therefore become impatient, withdraw, and exacerbate the individual's depression as a result. Couples often feel as though they are "walking on eggs," and find themselves making unacceptable compromises in order to avoid confrontation. If the partner tries to be helpful, he or she becomes frustrated and angrier at the depressed mate. Although Cayne does not propose or test a specific treatment model, his observations lend support to the notion that individual problems result in severe disruption in the family and marital relationship, and that spouse-involved treatment is therefore probably appropriate.

Schizophrenia is also a problem that has been considered to be both an individual and a family problem. McGill and colleagues (McGill *et al.*, 1983) noted that deinstitutionalization requires schizophrenics and their

families to take more responsibility for managing the illness. However, families feel handicapped by their lack of knowledge, and they do not know what actions of theirs may be helpful or harmful. The treatment includes the family in an educational and therapeutic program. The family educational program addresses the nature and phenomenology of schizophrenia, defines the patient as an expert who educates the family about the phenomenology, and addresses theories of the etiology of schizophrenia, the role of environmental stresses, the role of the family in treatment, and the role of chemotherapy. The family therapy component involves an assessment of the strengths and deficits in family communication and coping styles and attempts to enhance such communication skills as expressing feelings, reflective listening, and making positive requests for change. Although they report few outcome data from their study, their preliminary results were described as encouraging.

Social Support in Addictive Behaviors

In considering the role of the spouse or family in the treatment of addictive behaviors, there is a large literature in the areas of obesity and alcoholism, and a relatively small empirical literature in the areas of drug abuse and smoking. A number of early studies on spouse-involved treatment for obesity found significantly greater weight reductions and maintenance of weight reduction when the spouse was involved in the treatment than when only the obese person was involved (Brownell, Heckerman, Westlake, Hayes, & Monti, 1978). Brownell's early work was not replicated (Brownell & Stunkard, 1981), and later studies have found mixed results. One recent study examined the relative effectiveness of spouse presence during weight reduction treatment, compared to active behavior change for the spouse (Murphy *et al.*, 1982), and found that couples-involved treatment was more effective than individual treatment over a 2-year period, but that the type of spouse involvement did not matter. In contrast, Dubbert & Wilson (1984) found no incremental benefit for spouse involvement over individually focused group behavioral treatment for weight reduction.

In the smoking area, a more naturalistic approach has been taken to understanding the role of the spouse in successful smoking cessation. Mermelstein, Lichtenstein, & McIntyre (1983) developed a questionnaire to assess a variety of partner behaviors that might be related to smoking cessation. Their 76-item Partner Interaction Questionnaire (PIQ) was completed by a group of subjects involved in a smoking cessation program. A cluster analysis yielded four major clusters—nagging/shunning the smoker, policing, cooperative participation (including such items as "talked me out of smoking a cigarette"), and reinforcement. They found

the lowest PIQ scores for those subjects who never quit smoking during the program, and found lower PIQ scores for relapsers than abstainers at 3 and 6 months after treatment. Recent work by Coppotelli (1984) yielded similar results indicating the strong role for the spouse in successful smoking cessation.

Thus, in a number of quite diverse disorders, a similar trend has emerged in considering the role of the spouse and family in the treatment of these problems. Early models emphasized a strictly individual-oriented etiology and treatment of the disorders. Subsequent models for many severe problems (such as schizophrenia) implicated family members as the main etiological agents in the development of the disorder (as in the schizophrenogenic mother concept). As systems models became more influential, the family as a unit began to be seen as the primary agent responsible for the development, maintenance, and treatment of severe psychopathology. Family therapy was then recommended as the treatment of choice for such problems. Recently, more complex models are emerging as understanding of the interactions among biological, psychological, and social systems has increased. In many of the problem areas reviewed here, a strong individual component is now recognized in the etiology and maintenance of disorders. The individual component may be biological, as in contemporary theories of schizophrenia and obesity (e.g., set-point theory, Brownell, 1982), or primarily conditioning based, as in obsessive-compulsive disorders. At the same time, families are viewed as trying to cope with these problems, but these coping attempts are seen as exacerbating the already existing problem, as well as creating further problems. As the family lives with a problem for a long time, the structure and functioning of the family changes, so that the family now has major problems that exist independently of the original problem. To illustrate these concepts, I will now consider the role of the family in alcoholism.

Specific Applications of Social Support to Alcoholism

The family system of the alcoholic may contain a number of different members, including the spouse, children, parents, siblings, and other more distant relatives. Determining what family members are involved with the alcoholic's drinking, and whether their involvement revolves specifically around alcohol or is more pervasive requires complex clinical judgments. I try to discriminate between alcohol-focused family involvement and more general connections between family functioning and the alcoholic's drinking. Although this may seem an artificial distinction to make, I find it useful in clinical case conceptualization.

Alcohol-Specific Influences

Any family member may engage in behaviors that are directly related to the alcoholic's drinking. However, the behavior of the spouse of the alcoholic has been the focus of the most research and clinical speculation.

In clinical settings spouses describe a variety of actions that would appear to cue drinking behavior. Some of these behaviors can be described as nagging the alcoholic about drinking, as for example, telling him or her to cut down, providing warnings about the bad things that are happening or will happen because of drinking, or repeatedly bringing up past drinking episodes in an argumentative, angry tone. A second category of spouse behaviors that has been described as occurring at a high frequency among wives of alcoholic men (Orford *et al.*, 1975) are behaviors that are intended to control the drinking, but in fact appear to cue further drinking. Examples include going to the bar to bring the alcoholic home (which the children of the alcoholic may be asked to do), hiding liquor or throwing it away, taking control of the checkbook or car keys, or inviting in friends or relatives to try to control the drinking behavior. Many of these actions are similar to those described as characteristic of spouses of persons with obsessive-compulsive rituals (Emmelkamp & deLange, 1983).

Spouses and other family members may drink with the alcoholic, and certain family celebrations may have alcohol as an integral part of the celebration. Although data are scanty about the actual functional relationship between "nagging" or "control" behaviors and drinking, it is noteworthy that in a study of alcoholic men seeking treatment, 74% of their wives reported that they had stopped trying to control the drinking behavior prior to the man deciding to seek treatment (Djukanovic, Milosavcevic, & Jovanovic, 1976). It is possible that this decrease in spouse cues for drinking had some impact on the alcoholic's drinking.

Family-mediated consequences of drinking fall into three categories: (a) reinforcement for drinking behavior in the form of attention or care taking, (b) shielding the alcoholic from experiencing the negative consequences of drinking, and (c) punishing drinking behavior. Reinforcers for drinking may include such behaviors as providing beverage alcohol to help ease a hangover, providing something to eat or drink during a drinking bout, drinking together, or engaging in enjoyable activities together during a drinking episode. Behaviors that result in protecting the alcoholic from experiencing other naturally occurring punishers for the drinking may include taking over the alcoholic's responsibilities, cleaning up after him or her, calling the employer and covering at work, paying debts or bills accrued by the alcoholic while

drinking, pretending to others that there are no problems, or completing chores left undone during a drinking episode (Jackson, 1954; Lemert, 1960). Many of these actions are similar to those taken by spouses of agoraphobic clients.

The third type of family consequence of drinking involves delivering punishers for drinking. Although it would initially appear that punishing behaviors should result in decreased drinking, it may be that such punishers temporarily suppress the response, but ultimately either cue further drinking or result in avoidance of the family member who delivers the punishers. Examples of such double-edged punishers may include refusing to talk to the alcoholic during a drinking episode, leaving the room, or locking the alcoholic out.

General Family Influences

In addition to family interactions that revolve specifically around alcohol, alcoholic couples have certain patterns of interaction that create general problems in the family. Alcoholic couples are postulated to have poor communication and problem-solving skills. They are seen as having a low rate of positive exchanges, and evolving over the years a mode of interacting that involves attempts to control each other coercively, such as through threats or nagging. As the aversive situation has escalated over time, communication is believed to become more ambiguous, vague, and inconsistent. As a result of these poor communication skills and ineffective methods of control, a large backlog of problems should accumulate.

A number of studies have reported controlled observations of alcoholic couples' interactions. Several studies have found a high frequency of hostile and/or coercive verbal interactions (e.g., Billings, Kessler, Gomberg, & Weiner, 1979; Cvitkovic, 1979). Couples highest on hostile coercive interactions prior to treatment also have been found to have the poorest treatment outcomes (Moos, Bromet, Tsu, & Moos, 1979; Orford, Oppenheimer, Egert, Hensman, & Guthrie, 1976). A paucity of effective communication skills has been noted, including a low rate of friendly acts (Billings *et al.*, 1979), a low rate of cognitive acts (e.g., suggestions, information) (Billings *et al.*, 1979), a low rate of relationship-relevant messages emitted by the alcoholic (Klein, 1979), and a low rate of verbal output generally (Billings *et al.*, 1979; Foy, Miller, & Eisler, 1975). A lack of intimate, positive exchanges and a low frequency of spending free time together has also been observed (Djukanovic *et al.*, 1976). None of these studies, however, has directly examined the influence of aversive marital exchanges on drinking behavior. It is possible that poor communication and problem-solving skills characterize the relationships that

alcoholics have with children, siblings, and parents. If similar deficits exist (and there are no data relevant to this question), then problems in these other relationships might also accumulate and become cues for drinking.

Family consequences of drinking are varied, and may serve to reinforce strongly the drinking response. One or both members of an alcoholic couple may markedly change their behavior after drinking, resulting in positive exchanges not present during nondrinking interactions (e.g., Steinglass, Davis, & Berenson, 1975). Such changes have also been observed with an alcoholic father and son (Steinglass, Weiner, & Mendelson, 1971). The alcoholic member of a couple may increase his or her assertive or aggressive responses, which might reinforce the drinking (Cvitkovic, 1979). Problem-solving behavior may also increase (Frankenstein, 1982). Alcoholics also seem to increase the rate and amount of verbal output while drinking, which also may reinforce drinking in a marital relationship in which their verbal output is typically low (Billings *et al.*, 1979; Foy *et al.*, 1975). However, some studies have not noted these improvements in the alcoholic's marital communications during a drinking episode, but rather have noted a decrease in relevant communications during drinking (Cvitkovic, 1979), and an increase in spouse, rather than alcoholic communications during drinking (Cvitkovic, 1979).

In summary, the literature on alcoholic couples provides a microcosm of the larger literature on couples with major emotional and addictive problems. It appears that there is a significant individual component in the development of alcohol problems. This individual component may be learning based, and may also have a heritable element. However, the family of the alcoholic then becomes involved with the person's drinking through the mostly ineffective means they employ to cope with the drinking. Family and marital problems may have contributed to the original development of the maladaptive drinking, but also develop as a result of the drinking, and then contribute to the maintenance of the drinking.

Interventions

Given this kind of an analysis of the family's role in an addictive behavior, several kinds of treatment interventions might be considered. Treatment should be directed at three domains: (a) individual behavior change, (b) the partner's behavior vis-à-vis the addictive behavior, and (c) the family's interactions. In the individual realm, individual-behavior-change techniques can be used to help the person stop drinking, stop smoking or lose weight. There are a number of promising behavioral models that clinicians may use for treatment of these problems,

including McCrady's (1985) work on behavioral treatment of alcohol abuse and alcoholism, recent work on the use of very-low-calorie diets and behavior therapy in the treatment of obesity (Wadden, Stunkard, Brownell, & Day, 1984), and recent work on the use of nicotine gum (Killen, Maccoby, & Taylor, 1984) and nicotine fading procedures (Beaver, Brown, & Lichtenstein, 1981) in smoking cessation programs.

In considering the partner's behavior, the clinician should consider ways that the partner can be helpful to the client in the process of individual change. For example, the partner can learn to provide reinforcement for behavior change, and to withdraw reinforcement if the client relapses (as in Hunt & Azrin's, 1973, community reinforcement approach to the treatment of alcoholism). The spouse might also learn how to be supportive to the change process, by listening in a nonjudgmental way when the client is having urges to use the substance that he or she is trying to stop using, or by suggesting alternative behaviors to use to cope with urges. The spouse might model appropriate behavior, as has been suggested in spouse-involved weight reduction programs (Brownell *et al.*, 1978). The spouse might also learn how to change behaviors that cue or reinforce the addictive behavior, and might learn to provide honest feedback about the impact that the addictive behavior has on the spouse. The spouse might also be helped to recognize the limits of one's influence on an addictive behavior, and learn ways to cope with feelings about the addictive behavior and its consequences.

The third domain of clinical intervention is in the interactions of the couple or family. A behavioral marital-therapy model (e.g., Jacobson & Margolin, 1979) might be used to help the couple increase positive exchanges and improve communication skills. Family or friends might also provide concrete assistance to the individual, such as advice on how to cope with practical problems (as in Azrin's, 1976, use of "buddies" in the treatment of alcoholism). Finally, families or couples can learn to spend time together in activities that are reinforcing for the entire family, and are incompatible with the use of the addictive substance.

These suggestions are based partly on clinical experience and partly on the empirical literature. In the next section, a research study will be presented that examines the relative effectiveness of spouse-involved alcoholism treatments that have differing degrees of emphasis on the role of the family.

COMPONENTS OF SPOUSE INVOLVEMENT IN ALCOHOLISM TREATMENT

Subjects for the study were recruited through newspaper advertising, contact with community agencies, and from the admissions depart-

ment and inpatient units of the psychiatric hospital in which the research was conducted. To be included in the study, subjects had to be between 21 and 60 years of age, married, their spouse had to be willing to participate, they had to have had a drinking problem for at least 2 years, have been drinking in the last 60 days, have a score of 5 or greater on the Michigan Alcoholism Screening Test (MAST) (Selzer, 1971), and they had to report that at least four clear problems had occurred because of drinking in the last 12 months. Subjects were excluded if they abused drugs, showed evidence of a major depressive disorder, schizophrenia, or organic brain syndrome, or if the spouse was an alcohol or drug abuser. Subjects were also excluded if they were involved in any other form of treatment and were unwilling to discontinue that treatment while involved in the research treatment program.

Subjects were evaluated prior to treatment, during treatment, in face-to-face interviews immediately after treatment, and 6, 12, and 18 months later. Subjects and spouses were also interviewed monthly in separate telephone interviews. Data were collected about daily drinking behavior, daily marital satisfaction, and daily urges to drink. Employment status, legal problems, and marital separations or divorces were assessed. Structured questionnaires were used to assess marital, social, and psychological functioning, and all couples were videotaped to provide information about communication skills.

After informed consent and baseline data collection, subjects were randomly assigned to one of three treatment conditions: minimal spouse involvement (MSI), alcohol-focused spouse involvement (AFSI), or marital therapy (MT). In all groups, each couple was seen conjointly for 15 treatment sessions, each 90 minutes long. In all experimental groups, subjects were taught skills to learn how to maintain abstinence from alcohol. In the AFSI and the MT group, spouses were taught how to provide support for abstinence, how to discuss assertively concerns about drinking, how to respond to any drinking episodes, and how to respond to drinking situations. In the MT condition, couples also received specific treatments to modify their marital relationship, including treatments to increase the positive exchanges in the relationship, and communication and problem-solving training.

Fifty-three couples began in the experimental treatments. However, there was a trend toward a differential dropout rate among the groups ($\chi^2(2) = 5.21$, $p<.08$), with more subjects discontinuing the individually focused treatment than the other two treatments (52.8% completed MSI treatment, compared to 76.9% in the AFSI group and 84.2% in the MT group). During treatment, the subjects in the AFSI group did not significantly decrease their drinking over the 15 weeks of treatment, whereas subjects in the other two treatment conditions did significantly decrease

the quantity and frequency of drinking. Most subjects were abstinent by the end of treatment. There were no marked differences among the groups on marital satisfaction during treatment. The couples in the MT group were more compliant with joint homework assignments than couples in the AFSI group, but there were no differences among the three groups on homework completed by the subjects alone or by the spouses alone.

During the 18 months of follow-up, 90.2% of the follow-up interviews scheduled with clients were completed. Over the first 6 months of follow-up, there were significant differences in outcomes for both drinking and marital satisfaction. Subjects in the AFSI group relapsed more quickly than subjects in either of the other two treatment conditions. Subjects in both the MSI and the AFSI condition reported marked decreases in marital satisfaction, compared to the MT group.

Over the full 18 months of follow-up, there were no differences in drinking outcomes among the three groups. Subjects reported abstinence on approximately 82% of the days during follow-up, with 31.7% of the subjects being continuously abstinent (28.6% of the MSI group, 27.3% of the AFSI group, and 37.6% of the MT group). However, there were several separations and divorces in both the MSI (four separations, mean of 178 days) and the AFSI groups (three separations, mean of 83.7 days), with high marital stability in the MT group (one brief, 6-day separation). Clients in the MT group reported higher marital satisfaction on the Locke-Wallace Marital Adjustment Test (MAT) (Locke & Wallace, 1959) when compared to the AFSI group. For those couples in the MSI group who remained together, their MAT scores were also significantly higher than those in the AFSI group. Communication skills were also different in the AFSI couples than the other two groups, with more negative verbal behavior by subjects, and more negative nonverbal behavior by spouses in this group than in the other two groups.

CONCLUSIONS

The research presented here suggests several important issues relevant to family involvement in the understanding and treatment of addictive behaviors. First, there were differences in treatment adherence and compliance with treatment among the groups. If a couple is willing to be involved in treatment for alcoholism, it appears that active spouse involvement is beneficial. These results are in contrast to results in the obesity literature (Murphy *et al.*, 1982). By the end of 18 months of follow-up, the differences in drinking among the three groups had disappeared. However, there were major differences in the marriages of

the couples who received the different treatments. There were more separations among those who did not receive marital treatment, and there were differences in marital communication and marital satisfaction among those who stayed together. It may be that there were two different pathways to improved marital relationships in these couples—direct treatment of the marital problems, or intensive treatment to help the individual cope effectively with his or her drinking problem. In either case, the marriages that survived seemed to benefit.

At the beginning of the chapter, the positive role of family-involved treatment was emphasized. However, the research literature is more mixed than the enthusiastic clinical and theoretical literature. The research literature clearly demonstrates that marital therapy helps marriages, even when an addictive behavior is present. It also appears to support the notion that spouses can provide support for changing certain addictive behaviors (e.g., smoking), but there is not a convincing literature that demonstrates that clinicians can change spouses' behaviors to become supportive if they are not already so.

It may be that one of the reasons that family or spouse-involved treatment has not been as effective as hoped is that the approaches to family involvement attempted to date have not taken into account the stage of the addictive behavior (Prochaska, 1979). For example, the family's role in helping a person who is in the precontemplation stage may be quite different than the family's role in treatment for a person who is at the maintenance stage of behavior change. In the precontemplation phase, the family may be acutely aware of a problem, whereas the individual is completely unaware that a problem exists. At this stage, the family may provide information about the problem, and may establish contingencies that require that an individual seek help, even though the individual does not see the behaviors as problematic. At the contemplation stage, further information and feedback may continue to be helpful, as well as continuing enforcement of contingencies for behavior change. During action, the family may provide support, and the whole family may be involved in treatment to change problems that are present in the family. During maintenance, the family may continue to reinforce change, continue to change their own behavior, and an altered family structure might also support the individual change efforts. The family appears to be especially important in the contemplation and action stages when it comes to emotional feedback and contingency setting. By considering the different roles of the family at different stages of individual change, it may be possible to improve the effectiveness of family-involved treatment for addictive behaviors.

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16

Cognitive Processes in Addictive Behavior Change

IAN ROBERTSON

INTRODUCTION

The aim of this chapter is to explore some possible relationships between self-regulation and behavior change, on the one hand, and higher level cognitive processes, namely attention, memory, and thinking, on the other. The emphasis is on drinking behavior, but the relevance to other addictive behaviors will become obvious. This chapter draws upon a cybernetic model of self-regulation elaborated by Carver and Scheier (1981) from the work of Miller, Galanter, and Pribram (1960), Powers (1973) and others, and is unashamedly speculative in tone. It aims to draw together theoretical and empirical studies from diverse areas in the hope that some fruitful testable hypotheses may emerge.

The fundamental unit of a cybernetic system is the *feedback loop*, and Miller, Galanter, and Pribram (1960) describe the TOTE loop: namely, the person or machine *tests* the sensory input to see whether it conforms to a predetermined standard, and then *operates* on the environment in order to bring the sensory input in line with the standard. It then tests again, and if input and standard are compatible, it *exits* and no further action is necessary during this behavioral phase. If input and standard are still discrepant, the operate phase must be repeated.

IAN ROBERTSON • Department of Psychology, Astley Ainslie Hospital, Edinburgh EH9 2HL Scotland.

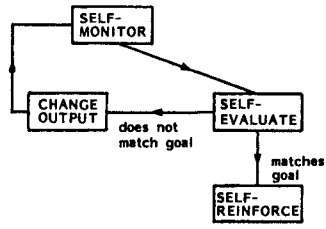

FIGURE 1. Self-regulation loop.

There are parallels in self-control theory, and Figure 1 outlines a parallel scheme in the language of self-control.

How is this model useful in understanding addictive behavior? Individual loops can be nested into decision trees, algorithms that provide hypothetical models of the course of self-regulation. One such cybernetic model will now be discussed in some detail.

CONTROL THEORY

Carver and Scheier (1981) have elaborated upon Power's (1973) cybenetic model to produce a model of self-regulation, and this will serve as a working model in this chapter through which to discuss some hypothetical mechanisms by which cognitive processes may affect self-regulation. Figure 2. outlines their basic model, taking for simplicity's sake only the top six levels of the hierarchy. Next to each level is an example of how a hypothetical problem drinker might fit into this framework.

Most behavior is nested within superordinate goal systems, though there are clearly examples where this is not the case, for instance, where classical or operant conditioning takes place without awareness. In the control theory of Carver and Scheier, there are a number of levels of organization of behavior, consisting of a complex network of feedback loops. The comparison standard, or goal, for one level of organization is determined by the output of the next higher level in the hierarchy.

If we take another example in Figure 2, we note, for instance, that the highest system level may be a higher-order self-concept, such as "I am a responsible person." The next level down, the principle level, might be a concept such as "I try to do what I say I will do." Now the standard (or goal) for this principle level is specified by the output from the system level. In other words, the person judges the adequacy of his functioning at this level according to the lofty ideals set by the higher

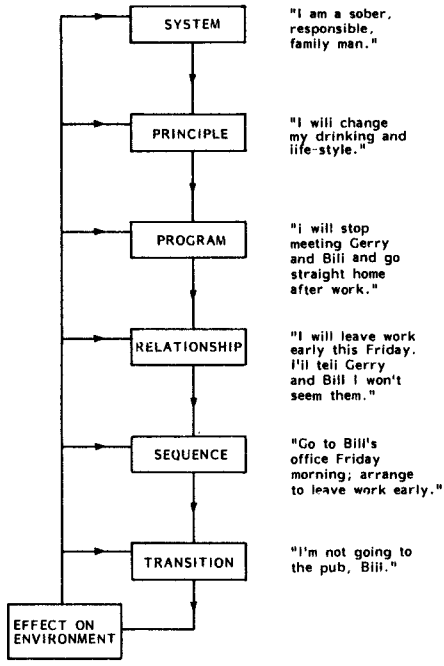

FIGURE 2. Hypothetical cybernetic hierarchy for a problem drinker—I. Adapted from Carver and Scheier, *Psychological Bulletin, 92,* 111–135.

level. Thus, at the program level, one possible output might be, "I must visit my aunt as I promised." The adequacy of functioning at this level is determined by the output from the program level, and so on. (Note that the finer-grained components of the behavioral sequences are necessary for the output to be perceived by the individual, but for simplicity's sake let us omit the lower levels of the hierarchy.)

The person illustrated in Figure 2 has reached the stage where he sees a reason to change his drinking behavior, whether through his own devices or with the help of a counselor. His self-concept and intentions can be analyzed in the language of Carver and Scheier. Each level of this system is regulated and adjusted according to the standards set by the next highest. Thus the man assesses his principle-level intentions ("I am going to change my drinking habits") in terms of the system level output ("I am a sober family man"). Alterations in the principle-level output are compared with the comparison set by the system. So, for instance, if the man begins to think "I'll go and have a good few drinks with the mates, now and again," comparison of this with the system output ("I am a responsible family man") should result in a change at the principle level to reduce discrepancy between output and standard. Similar events oc-

cur all down the chain, and the perfectly functioning system ensures that the final behavioral output is in complete accord with the highest level system output. So our man goes home early on Friday night and spends a pleasant time with his family. Or does he?

Carver and Scheier maintain that the network of commands will operate *only below the level upon which attention is deployed.* Thus behavioral output will only be compatible with the highest level of control that is attended to. Take Figure 2, for instance. Suppose attention is deployed only at the relationship level, that is, "I will leave work early this Friday, etc."; Suppose he tells them this, and they say, "Look, we're meeting at 10 tonight—come along then." The man has satisfied the goals for the relationship level (he told them, didn't he?), yet the low-level deployment of attention ensures that the actual behavior output is at odds with higher level systems, principles, and programs.

For self-regulation to be in accord with the highest-order goals, attention has to be deployed at the highest levels. In other words, *self-awareness,* or high-level self-monitoring, is required. Other cognitive mechanisms are required for self-regulation—memory and thought in particular—and I will return to these later. First, however, let me turn to the evidence about self-awareness, particularly in relation to alcohol and its effects.

SELF-AWARENESS AND SELF-REGULATION

Jay Hull (1981) published an influential paper that argued that a major effect of alcohol is to interfere with higher-order processing of self-relevant information, that is, information both about cues regarding appropriate forms of behavior, as well as self-evaluative feedback about past behaviors. Hull also argued that this provides a major motivation for drinking, and reviewed research from a number of areas to support the hypothesis, ranging from experimental studies of intoxication where normals produced fewer spontaneous self-referring words and phrases than those who had taken no alcohol, to studies of conversations among intoxicated people, where a failure to acknowledge the content of other people's speech is observed. I do not intend to debate Hull's thesis here, as this has been done elsewhere (Hull & Reilly, 1983; Wilson, 1983); rather, I would like to take it as a working hypothesis and to examine its implications for self-regulation.

There is some evidence to suggest that the chronic effects of alcohol on the brain are to some extent similar to its acute effects while still in the blood. For instance, Butters and Cermack (1980) demonstrated that alcoholics showed a poorer verbal memory on certain tests, and that it seemed that their poor performance was in part attributable to a failure

spontaneously to deploy mnemonic or other memorising strategies. Rosen and Lee (1976) found a similar result with acutely intoxicated normals; their poor performance on certain memory tasks was attributable in part to a failure spontaneously to organize the material into semantic categories, so as to make it more easily remembered. Thus there are some grounds for assuming deficiencies in high-level initiation of cognitive processes resulting from both the acute and the chronic effects of alcohol. Could these deficiencies relate to a failure of high-level self-monitoring and self-awareness? Do intoxicated normals and dried-out problem drinkers do poorly in part because they fail to ask themselves questions such as, "How am I going to remember this?", or "What do these words have in common?". Certainly, the poor performance of alcoholics on problem-solving tasks requiring this sort of higher-order process is compatible with such a hypothesis (e.g., Klisz & Parsons, 1979). Furthermore, Tarbox and his colleagues at Houston (Tarbox, Weigel, & Biggs, 1984) have identified an "internal scanning" factor that predicts adjustment of alcoholics at a 2-year follow-up. This factor is described by Tarbox *et al.* as follows:

> It reflected the extent to which the individual made use of information related to an act *prior* to responding. Among the sources of information available to the scanner and relevant to an act are memory storage, remote associations, judgmental or logical operations, physiological sensations and self-concept. (p. 2)

Thus there exists some evidence to suggest deficient high-order self-monitoring or self-awareness among alcoholics, and perhaps also among intoxicated normals. Could it be that even among problem drinkers who have not suffered long-term brain-damage, a "dulling" of high-level self-monitoring may persist for several days of abstinence? If so, then perhaps the implications of dulled self-monitoring go far wider than to the chronically damaged alcoholic population. One might speculate that even drinkers who give up drinking for a week or two are hindered in these efforts by a persisting, nonpermanent dulling of self-awareness, and thus never really give themselves the chance fully to take stock of their lives and problems because of this.

It is being argued therefore that high-level attentional processes may be disrupted by alcohol, and awareness and attention limited. Given that Carver and Scheier have argued that the self-regulation control system (see Figure 2) only operates below the level where attention is deployed, then a disruption of self-regulation because of the attention-disrupting effects of alcohol seems possible. If this is the case, then behavioral misregulation may well be a consequence, because lower-order control levels may function independently of higher-order command levels, that is, the hierarchy of control is truncated.

Other Reasons for Low-Level Deployment of Attention

I have just argued that self-regulation can become detached from the output of higher-order principles because attention deployment is reduced to low and relatively more concrete levels through the effects of alcohol—both acute and chronic. But other factors can also disrupt attention and focus it on lower levels. First, where a strongly established behavioral program (or script, or schema, depending on whose language you are using) exists, then it is likely that it will be associated with certain cues or stimuli. If these cues are sufficiently salient and unexpected, it is quite possible that they might set in action a given repertoire of behavior—hence, for instance, the smoker who temporarily forgets himself after a few drinks, and finds himself launched into the chain of thoughts and actions comprising the "smoking program."

Second, strong emotions may disorganize higher-attentional processes so that regulation according to higher-order principles is abandoned and attention is focussed on lower-level processes. The poor performance of very anxious and depressed people on a variety of cognitive tasks testifies to the disruptive effects of strong emotions on higher cognitive processes.

Third, there are considerable *individual differences* in the extent to which people show higher-order slips of action and memory. Broadbent, Cooper, Fitzgerald, and Parks (1982), among others, have attempted to measure cognitive failures, and have developed a questionnaire that has predictive utility. For instance, they cite one study where student nurses entering a hospital were followed-up after they had been working in a variety of wards, some of which were known to be "high-demand," stressful wards. What was found was that those nurses who reported high levels of cognitive failures showed markedly higher levels of anxiety and mental stress in the high-demand wards than did the low-cognitive-failures group, in spite of showing comparable levels of anxiety and depression prior to entering the ward. In the low-demand wards, their levels of mental distress remained similar to that of the low-cognitive-failures group.

Thus the attentional processes that are necessary for self-regulation can break down for a number of reasons, or for combinations of these reasons. For instance, a problem drinker will likely have some very active schemata for drinking, which are responsive to highly salient cues. Much of the time the drinker may be able to anticipate the cues and deploy attentional processes so as to inhibit the prepotent schemas and substitute some more benign, albeit novel, schemata. Yet if these attentional processes are disrupted—whether by the acute or chronic effects of alcohol, powerful emotional states, or constitutional deficits in

the higher-order attentional processes—then such cues may more readily trigger their corresponding behavioral script.

Schemata Activation

Let us go back to the hypothetical drinker described in Figure 2. Following attendance at a drinking problems clinic, where he has spent a considerable amount of time talking over his problems with other people, he has moved, in Prochaska and DiClemente's terms, through the precontemplation and contemplation phases of change and now is considering plans for action on his discharge. This man is working hard and is a good bet in the eyes of the staff. The sequence of tasks in Figure 2 is a possible scenario for one challenge that faces him.

Let us assume that he has the bones of an alternative behavioral schema or plan that involves a somewhat altered self-image, adjusted values and priorities, new behavioral intentions, and a set of salient memories and arguments for a new plan. In Prochaska and DiClemente's words, his consciousness has been raised, he is to some extent liberated from his self and from his social environment, and he has reevaluated his priorities. Figure 2 represents a nested set of intentions and schemata consistent with the new image. Let us compare this with a hypothetical set of schemata, currently dormant, yet potentially active, which were in operation prior to the contemplation phase of his behavior-change process (Figure 3.).

Here we have two sets of schemas, one (Figure 2) as yet depending mainly on messages from highest order schemas for its activation, whereas the other (Figure 3) is activated at all levels by a set of well-established cues and contingencies.

Let us assume that this person's attention is disrupted and focused at relatively concrete levels because he is still dulled by the persisting effects of alcohol, even though it is 3 weeks since he had his last drink. Suppose his attention is focused at the relationship level of the feedback hierarchy. Figure 4 outlines the possibilities.

Which of the two behavior chains will come into operation will depend on a number of factors already mentioned, including the following:

1. Deployment of attention to higher-order levels of feedback systems
2. Control over potentially disruptive emotions
3. Ready access to relevant memories and schemata
4. Rapid problem-solving and decision making

Thus, in order to sustain a relatively unsupported, low-probability

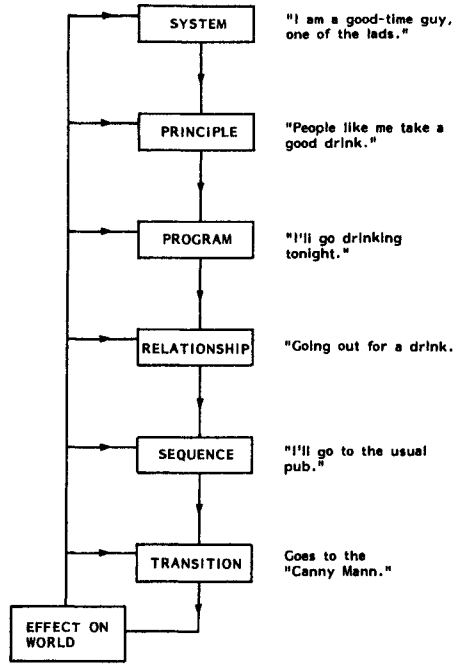

FIGURE 3. Hypothetical cybernetic hierarchy for a problem drinker—II. Adapted from Carver and Scheier, *Psychological Bulletin, 92,* 111–135.

behavioral schema, the person must not only actively deploy attention to the highest level schemata (a relatively rare tendency for most of us in day-to-day life), but he or she must also exert cognitive control over thought processes associated with strong emotions, resist the impulse to act on the basis of these thoughts, appraise problem situations, decide

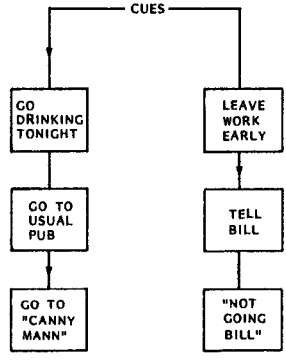

FIGURE 4. Competing schemata.

on responses, implement them, and check out the results with the personal and normative standards. He or she must also have ready access to a wide range of memories, both verbal and visual, relevant to decisions made at feedback loops at all levels of the control hierarchy. The range of cognitive tasks required of individuals include self-awareness, self-monitoring, environmental monitoring, stimulus control, goal specification, self-evaluation, self-reinforcement, rehearsal, cognitive control, decision making, scheduling and accessing memories, images or schemata, among others.

THE ROLE OF MEMORY AND THINKING IN SELF-REGULATION

I have already suggested that the disruption of higher-order attentional processes may, under certain circumstances, disrupt self-regulation, and it is clear that, to the extent that each of the previously mentioned processes must be uncued and self-initiated, then attentional deficits may interfere with these self-regulation processes. Where does memory come into this?

On tests of both verbal and nonverbal memory (though not *all* tests), many problem drinkers—as well as acutely intoxicated nonproblem drinkers—show deficits. But why should memory for lists of words or for pictures have any impact on self-regulation? There is no direct evidence relating to this question in the problem-drinking literature, but let us look for a possible analogy in the field of depression. Teasdale and Fogarty (1981) induced either a happy or a depressed mood in a group of normal subjects. The induced mood was validated by well-established measures such as rate of speaking. Subjects were given a list of words and were asked to retrieve pleasant memories that were sparked off by each word, and to press a button as soon as such a memory came into mind. The mean latency for those who had a happy mood induced was significantly shorter (4.05 secs) than for those who had a depressed state induced (5.25 secs). In other words, retrieving a pleasant memory took on average 1.2 secs longer when a depressed state had been induced in normal subjects. My reason for showing this finding is to argue that a similar slowing of memory activation for "emotional," behaviorally relevant memories might well be expected in problem drinkers. What difference does one or two seconds make in the retrieval of memories? Well, in the complex day-to-day decisions that are necessary for self-regulation, one second slowness in retrieving a memory could be the difference between the activation of one schema over another, given that the amassing of relevant memories may well be part of the process of activating higher-order schemata. If the person is

faced with a potent drinking cue, quick retrieval of "good family" memories may be absolutely crucial in determining whether or not the cue is resisted. This is, however, speculative and must be subject to proper experimental study.

With regard to thinking, on the other hand, more direct evidence pertaining to the addictive behaviors is available. Chaney, O'Leary, and Marlatt (1978) carried out a study of training in relapse prevention and problem solving in which problem drinkers had to identify problematic situations liable to produce relapse and were rehearsed in ways of responding to these situations. The following is one example:

> You are eating at a good restaurant on a special occasion with some friends. The waitress comes and says, "Drink before dinner?". Everyone orders one. All eyes seem to be on you.

Now it so happens that the treatment group showed a better outcome on a number of measures than the control group, but that is not the main concern here. One of the measures taken was *latency* of response—that is, how long it took a subject to come up with a response to a role-played problematic situation. This latency measure was unaffected by training, yet it was the best predictor of a number of one-year outcome measures, including days abstinent, days hospitalized, and total amount drunk.

It is quite astonishing that such a measure should outweigh other demographic and drinking history measures, but that is what Chaney *et al.* found (though, of course, correlations do not demonstrate cause). At least four other studies have shown that cognitive variables predict outcome in a similar group (Abbot & Gregson, 1981; Bergland, Leijorgust, & Horlen, 1977; Gregson & Taylor, 1977; Tarbox *et al.*, 1984).

CONCLUSIONS

I have argued that cognitive variables—attention, memory, and thinking—have a potentially strong influence on self-regulation, and that self-regulation theory has paid insufficient attention to these variables. I have focused on the case of alcohol as this most clearly affects cognitive functions. Yet, given that there are wide individual variations in cognitive state for reasons ranging from mood to genetic factors, it is not only with respect to problem drinking that these variables are relevant, as the research quoted by Broadbent *et al.* (1982) shows. Perhaps self-regulation theory should pay more attention to the facilitation of improved memory, attention, and thinking strategies, that is, on thinking *processes* as opposed to thought *content*. This might also apply to the

process of counseling, where many assumptions are made about the ability of clients to translate words into actions. These assumptions may be far from justified in many cases.

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17

Change without Therapists

The Use of Self-Help Manuals by Problem Drinkers

NICK HEATHER

The main title of this chapter is misleading if it implies that I will be concerned here with so-called spontaneous remission. Rather, as the subtitle indicates, I am interested in the extent to which, and the way in which, problem drinkers may be assisted to achieve and maintain beneficial changes in drinking behavior by using self-help manuals written by professionals—what might be termed "assisted spontaneous remission." We all know that problem drinkers can, and frequently do, reduce their drinking to non-problem levels without any formal help from therapists (e.g., Saunders & Kershaw, 1979; Tuchfeld, 1976). But can self-help manuals, based on the principles of self-management theory, assist them in this process and, if so, how? This is the principal question I wish to pose.

NICK HEATHER • Department of Psychiatry, Ninewells Medical School, University of Dundee, Dundee DD1 9SY Scotland. The main funding for the self-help manual evaluation was provided by the Medical Research Council, but the Scottish Health Education Group also made a substantial financial contribution. I would like to thank Ian Young, Sam Docherty, Mike Church, and Ian Thompson of SHEG for their help and advice during the project, as well as Iain Glenn for making available the results of the Highlands DRAMS evaluation. The DRAMS evaluation is a joint project with the Department of General Practice, Ninewells Medical School, and is funded by the Scottish Home and Health Department (Chief Scientist Office). The medical wards research is funded by the Health Promotion Research Trust.

This chapter is decidedly oriented toward the Action and Maintenance stages of Prochaska and DiClemente's model of the change process; it assumes that the Contemplation and Decision-Making stages have been successfully negotiated and that the drinker has come to a decision, however tenuously or inconsistently held, that he or she must do something about the problem with alcohol. This is implied in the title of the self-help manual we have used in our own research on the topic, "So You Want To Cut Down Your Drinking?" (Robertson & Heather, 1983).

The chief advantage in describing the use of self-help manuals as "change without therapists" is that it thereby implies an attempt to break free of the mould of the traditional, hospital-based treatment delivery system that has been inherited from the medical context in which clinical psychology originated. To reiterate an obvious point, it is far from clear from a social-learning perspective whether what we are delivering in self-help manuals is treatment or education, or whether the distinction is in fact meaningless from this point of view. Thus, self-help manuals can constitute one kind of response to the challenge issued by Jim Orford, at the conclusion of his contribution to this volume, of attempting to change our intervention practices to match the revolution in our thinking about alcohol problems and addictive behaviors in general (see Orford, Chapter 5, this volume).

In this chapter I will first discuss reasons for the upsurge of interest in self-help manuals for problem drinkers, before describing the results of previous research in this area. I will then give a brief account of some research conducted at the Addictive Behaviours Research Group into the effectiveness of a controlled drinking self-help manual, including the results of a recently completed one-year follow-up of a cohort of media-recruited problem drinkers. I will conclude by mentioning other relevant research projects just started, about to start or planned, and suggest some possible directions for future research and practice.

REASONS FOR INTEREST IN SELF-HELP MANUALS

Given that the ideal of self-help has a very long history indeed (see Robinson & Henry, 1977; Robinson, Chapter 14, this volume), why is so much attention being paid to self-help manuals at the present time? The most obvious reason for this interest, certainly on the part of governments and other holders of purse strings, is their relative cheapness compared with more labor-intensive forms of intervention.

It now seems clear that, in most industrialized countries of the world, health services have reached the limits of expansion, although

whether or not this is a political inevitability cannot be debated here. In Britain, certainly, most commentators would agree that there will never be enough psychiatrists, clinical psychologists, nurses, or other professional helpers to respond adequately on a personal basis to all those problem drinkers who might profit from their expertise. This is especially true if one abandons a narrow disease perspective on alcohol problems, thereby considerably expanding the number of drinkers whose alcohol-related difficulties are considered legitimate targets for intervention—that "other world" of problem drinkers described by Room (1980). As Bruce Ritson has pointed out (see Chapter 19), if this is true of industrialized nations, it is even more relevant to the nonindustrialized parts of the world and this has apparently been recognized by the World Health Organization (see Grant, Chapter 3, this volume).

At the same time as the need for more cost-effective services has become an economic imperative, there has emerged a specifically modern version of self-help in the sense of mutual aid. This phenomenon has been described in detail by David Robinson (Chapter 14) and need not be dwelt on here. As Robinson asserts, the expansion of mutual-aid groups was butressed by the libertarian sentiments of the 1960s, with their objection to bureaucratic social control, resistance to professional dominance and imperialism, and the call for a greater degree of self-determination in the response to life's problems (see, e.g., Illich, Zola, McKnight, Caplan, & Shaiken, 1977). Related to this is an increasing awareness of the dangers of iatrogenesis (Illich, 1977) and a rich sociological literature on the deleterious effects of the labeling process and its resultant stigmatizing properties (see, e.g., Rubington & Weinberg, 1968). It is not clear to what extent the use of behaviorally based self-help manuals by individuals resonates with this lingering 1960s ideology, but it does largely avoid iatrogenic and labeling possibilities. This might be claimed as one of its main advantages.

This will be a convenient point to introduce a warning about the dangers of uncritical enthusiasm for self-help approaches. In one of those curious twists of which history seems peculiarly fond, it is precisely the radical arguments of the 1960s against institutionalization and professional dominance that are now being used by conservative governments to justify cutting back on essential medical and social services (Sedgewick, 1982). With regard to problem drinking, for example, however successful self-help procedures are found to be, there will still exist many problem drinkers who will continue to need specialized, face-to-face help. This may be especially true of those who have incurred some permanent neurological damage as a result of their drinking, because a prominent aspect of cognitive impairment caused by alcohol is a reduction in the capacities for self-regulation and forward planning (see

Robertson, Chapter 16), capacities that are obviously central to effective self-management programs. It may be possible to think of other sound reasons for retaining an individual, controlled drinking treatment model for specified classes of problem drinkers. In any event, the conclusion is that the use of self-help manuals must always be accompanied by critical evaluative research and must never be employed as an excuse for the second rate.

Although self-help has a long history, there is another feature of the current situation that makes self-help manuals attractive, at least to psychologists and allied professionals. This is the emergence over the last 15 to 20 years of a body of self-management theory and practice (see, e.g., Karoly & Kanfer, 1982; Thoresen & Mahoney, 1974), which has provided us with a systematic and empirically based technology of behavior change with exciting possibilities, not least for the construction of self-help manuals. It remains to be demonstrated, however, that this relatively sophisticated technology can add significantly to the effectiveness of the spontaneous and naive boot-strapping efforts of problem drinkers and other client groups.

Turning now to reasons for interest in self-help manuals more specific to the problem drinking area, I have already noted that a major consequence of abandoning the disease perspective on alcohol problems is that it expands our attention from the relatively small number of individuals in society with high levels of neuroadaptation to alcohol to the large number whose lives have in some way been adversely affected by their drinking. It should be remembered that the preponderant attention paid to highly physically dependent alcoholics was recognized as a major limitation of the disease theory by Jellinek (1960). The social learning alternative to the disease theory (see, e.g., Heather & Robertson, 1986) results in a disaggregative model for the recognition and classification of alcohol-related problems (Room, 1981) and a problem-centered approach to treatment and prevention (cf. Thorley, 1980). For many of the problem drinkers who are now regarded as legitimate targets for intervention, total abstinence would be unacceptable or would be actually counterproductive (Polich, Armor, & Braiker, 1980; Sanchez-Craig, 1980). It is also assumed that, because many of these problem drinkers are relatively less dependent on alcohol and are more likely to be able to change their drinking behavior, less intensive methods of intervention are appropriate. A further empirical question, however, concerns the extent to which standardized self-help programs and other minimal interventions can succeed in encompassing the diversity of specific problems that exist.

The poor cost-effectiveness of intensive, traditional treatment compared with forms of minimal intervention, not just for low-dependence

problem drinkers but apparently for alcoholics too (Armor, Polich & Stambul, 1978; Emrick, 1975; Orford & Edwards, 1977), is a well-worn path that I do not intend to tread again here. (Some of this evidence is reviewed by Ritson, Chapter 19). Nor do I wish to become embroiled in the vexed question of whether or not "treatment" for alcoholism can be said to "work." (For a full discussion of the issues arising from this question, see Part II in Heather, Robertson, & Davies, 1985). Nevertheless, a study recently completed in Dundee has some relevance to this question, as least as far as a controlled drinking treatment goal is concerned (Robertson, Heather, Dzialdowski, Crawford & Winton, in press).

We compared 16 relatively recent and/or low-dependence problem drinkers who had received a full program of individually tailored, cognitive-behavioral therapy at a hospital-based, outpatient clinic with 21 who had received two or three sessions of evaluation, advice, and an individualized set of drinking guidelines to take away. At follow-up an average of 15.5 months later, there was no statistically significant difference in the proportions of successful controlled drinkers between the two groups, but the intensive group showed a significantly greater number of days of complete abstinence in the month before follow-up, plus a significantly greater reduction in consumption. These findings appear to conflict to some extent with those from a number of comparisons of intensive and minimal controlled drinking treatment (see, e.g., Miller & Taylor, 1980; Miller, Taylor & West, 1980; Miller, Gribskov, & Mortell, 1981; Vogler, Weissbach, Compton, & Martin, 1977; Berg & Skutle, Chapter 9, this volume). One might speculate about the reasons for this apparent discrepancy (see Robertson *et al.*, in press), but the point for present purposes is that intensive controlled drinking treatment should not be entirely abandoned while it may still prove cost-effective for those certain types of recent or low-dependence problem drinkers who are willing to attend hospital-based facilities. This willingness is clearly much more than a question of the degree of seriousness of the problem. These findings by no means detract from the validity of a self-help approach; they merely reinforce the point made earlier about the need for continuing critical evaluation of minimal interventions.

PREVIOUS RESEARCH ON CONTROLLED DRINKING SELF-HELP MANUALS

It is a surprising fact that, in Glasgow and Rosen's (1978) influential review of behavioral bibliotherapy, no research with problem drinkers was listed and the area was mentioned only in passing. This may have

been because of the persistence of abstinence as the dominant treatment goal for alcoholism and the presupposition by psychologists that abstinence was not amenable to a bibliotherapeutic approach, although there appears to be no convincing reason to suppose that this is indeed the case.

With regard to self-help manuals in general, Glasgow and Rosen made the important distinction between (a) manuals that were entirely self-administered; (b) those where minimal contact with a therapist was present, and; (c) therapist-administered programs where manuals were employed in the context of regular meetings with a therapist. The authors also complained that not enough evaluative research was being conducted and argued that manuals should be evaluated under conditions as close as possible to their intended use.

Since Glasgow and Rosen wrote, of course, an extensive program of research into controlled drinking self-help manuals with low-dependence problem drinkers has been conducted by William R. Miller and his colleagues, now at the University of New Mexico, Albuquerque. A first paper (Miller, 1978) reported the "serendipitous" finding that clients who had been randomly allocated at the termination of treatment to receive a self-help manual outlining the principles on which their behavioral self-control training had been based fared better at a 3-month follow-up than those who had not. There then followed a series of studies (Miller & Taylor, 1980; Miller *et al.*, 1980; Miller *et al.*, 1981) that were designed directly to compare the effects of a self-help manual given on its own with various versions of intensive behavioural treatment. These studies all found that clients in the manual groups were at least as improved as those in the formal treatment conditions. A more recent report (Miller & Baca, 1983) extended the follow-up of this accumulated cohort of clients to 24 months and discovered an overall improvement rate in the manual group of 73%, which was equal to that found among clients who had received behavioral self-control training on an individual basis from a therapist.

By their very nature, the above findings rely on "proving the null hypothesis" of no difference between minimal and intensive groups, reflecting the origins of minimal interventions as control groups with which the hypothesized effects of more intensive interventions could be compared. The next stage in the research development of minimal interventions such as self-help manuals is clearly to hypothesize a superiority of the manual to some control condition. This has in fact been done in some unpublished research by Buck and Miller (1983). These authors compared a self-help manual group to one involving only the self-monitoring of alcohol consumption and a further control group of no-treatment, waiting-list controls. Follow-up was restricted to the end of the 10-week treatment phase because of the ethical requirement of offer-

ing control clients some form of treatment, in this case therapist-administered treatment in a group format. It was found that the bibliotherapy group was superior to the other two on measures of consumption at the 10-week follow-up point but that this superiority disappeared after control clients had received treatment. It must be pointed out that there are well-known problems with the use of waiting-list controls, who may simply defer a decision to cut down drinking to the time when they know they will begin receiving treatment.

Despite such problems, this program of research has clearly demonstrated the general viability of a self-help approach with a controlled drinking goal and has provided the necessary empirical justification for offering self-help bibliotherapy to low-dependence problem drinkers. Nevertheless, it does have certain limitations, mainly being unavoidable consequences of the conventional service-delivery setting in which self-help manuals were evaluated. First, most clients in bibliotherapy conditions were self-referrals to an outpatient treatment clinic and were therefore presumably highly motivated to change. The same cannot be assumed for all those who buy self-help manuals commercially or who might be sent them through the post by helping agencies after responding, for example, to newspaper advertisements.

More importantly from the point of view of Glasgow and Rosen's (1978) analysis, all clients were seen at least once by a therapist for assessment purposes and were given self-monitoring cards to be filled in and posted to the clinic each week. Thus minimal therapist contact was present and it may well be this factor, rather than the self-help material itself, that was largely responsible for the impressive results (cf. Orford & Edwards, 1977). In more practical terms, if it is intended to distribute self-help manuals beyond the clinical setting, for example by making them commercially available or offering them free through the post, the research infringed Glasgow and Rosen's recommendation that manuals be evaluated under conditions as close as possible to their intended use. In short, despite the methological problems that would inevitably arise, an evaluation of an entirely self-administered manual, without any therapist contact whatever, is needed.

A further limitation of Miller's research was that the relatively small numbers of clients taking part did not allow the investigation of such variables as take-up rate (i.e., the proportion of relevant problem drinkers who will take up use of the manual after having been exposed to it) and follow-through rate (the proportion who follow through with advice and instructions given in the manual after having taken it up). From a cost-effectiveness perspective, these are clearly issues of some importance in evaluating the impact of attempts at large-scale self-help interventions.

There are also unavoidable limitations in Miller's type of design

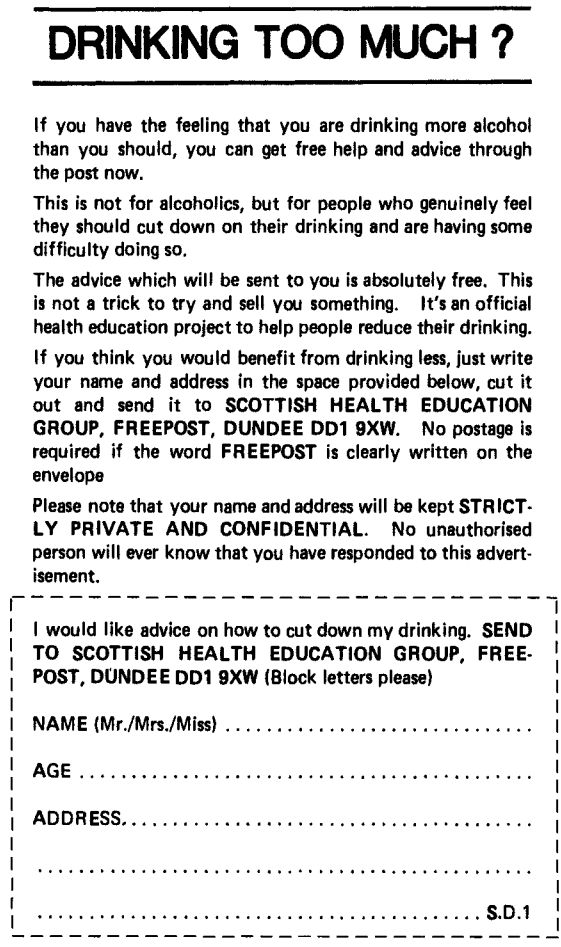
with respect to the control groups used. Although Buck and Miller (1983) showed that a self-help manual was superior to self-monitoring alone and to a waiting-list control group, this comparison was restricted for ethical reasons, as we have seen, to only 10 weeks follow-up. Clearly, a longer-term evaluation is necessary in which the superiority of a manual to some control intervention is predicted. It is also essential to compare a self-help manual based on behavioral self-management principles to a condition that controls for the nonspecific effects of bibliotherapy. In other words, it is necessary to establish whether it is the self-management ingredients of a self-help manual that make for effective bibliotherapy or the act of reading any reasonably relevant and well-intentioned material.

Finally, of course, although it may have been demonstrated that a self-help manual for problem drinkers works in the United States, it remains to be demonstrated that this effect is generalizable to other cultures. It is possible to imagine reasons why such an approach might not succeed quite as well in Scotland.

EVALUATION OF A SCOTTISH SELF-HELP MANUAL FOR MEDIA-RECRUITED PROBLEM DRINKERS

For all the reasons that have been discussed, we decided to evaluate a self-help manual with as large a number of presumptive problem drinkers as it was possible to recruit through the national and local press and without any direct contact with therapists. (It will not be possible to give a full account of this research here and the interested reader is referred to Heather, Whitton, & Robertson, 1986, and Heather, Robertson, Whitton, Allsop, & Fulton, in preparation.) The advertisement shown in Figure 1 was placed in several Scottish national and local newspapers during the early part of 1983.

All those who replied to the advertisement were sent, in strictly alternate order, either a specially prepared self-help manual (Robertson & Heather, 1983) produced by the Scottish Health Education Group (SHEG) or a general information and advice booklet on alcohol problems (Grant, Plant, & Saunders, undated) also available from SHEG. We had originally intended to use Miller and Muñoz's (1982) excellent manual but eventually decided that something more culturally specific was needed, reflecting Scottish customs, language, and attitudes. However, the contents were similar to those of the Miller and Muñoz manual and included information on the effects of alcohol, an analysis of reasons for drinking, instruction in self-monitoring, a guided functional analysis of harmful and harmfree drinking occasions, instruction in limit-setting



DRINKING TOO MUCH ?

If you have the feeling that you are drinking more alcohol than you should, you can get free help and advice through the post now.

This is not for alcoholics, but for people who genuinely feel they should cut down on their drinking and are having some difficulty doing so.

The advice which will be sent to you is absolutely free. This is not a trick to try and sell you something. It's an official health education project to help people reduce their drinking.

If you think you would benefit from drinking less, just write your name and address in the space provided below, cut it out and send it to **SCOTTISH HEALTH EDUCATION GROUP, FREEPOST, DUNDEE DD1 9XW.** No postage is required if the word **FREEPOST** is clearly written on the envelope

Please note that your name and address will be kept **STRICTLY PRIVATE AND CONFIDENTIAL.** No unauthorised person will ever know that you have responded to this advertisement.

I would like advice on how to cut down my drinking. **SEND TO SCOTTISH HEALTH EDUCATION GROUP, FREEPOST, DUNDEE DD1 9XW** (Block letters please)

NAME (Mr./Mrs./Miss) .....

AGE .....

ADDRESS.....

.....

..... S.D.1

FIGURE 1. Advertisement used in self-help manual evaluation.

and self-reinforcement, advice on methods of rate-reduction, an exploration of functional alternatives to drinking, and some instruction on relapse prevention. As in the advertisement (Figure 1), it was stressed that the manual was not for "alcoholics," defined crudely as those who had experienced significant withdrawal symptoms, and other classes of drinkers who were better advised to attempt or to maintain total abstinence (e.g., those with organic damage, "recovering alcoholics," and pregnant women) were described. A list of addresses of helping agencies was provided for those who might feel the need for more personalized help. The control booklet satisfied the requirement of controlling for the nonspecific effects of bibliotherapy; it contained no specific in-

structions on how to cut down drinking but did include a list of addresses that readers could use to obtain further help if needed.

The possibility that this research was subject to unavoidable methodological problems has already been mentioned. Before proceeding to the results, therefore, it will be convenient to consider these problems here. The first stems from the fact that the main type of information on outcome was derived, of necessity in a large-scale postal project of this kind, from respondents' self-reports of alcohol consumption and other measures. The validity of such self-reports is, of course, a contentious issue and has been reviewed by Midanik (1982). A frequent conclusion is that, despite a tendency for the heaviest drinkers to underreport consumption, problem drinkers' self-reports are reasonably valid and generally suitable for research purposes (e.g., Maisto, Sobell, & Sobell, 1979).

This conclusion has been recently challenged by Watson, Tilleskjor, Hoodecheck-Schow, Pucel, and Jacobs (1984) who, after a review of some of the relevant literature and a report of some new data, end by proposing a moratorium on the use of self-reports in follow-up studies of alcoholism treatment. In my view, this suggestion is greatly overstated and is not even warranted by the authors' own data. With regard to the present study, the question becomes, Is there any convincing reason to suppose that any invalidity in self-reports would differ systematically between the two groups being compared? particularly in view of the fact that the study was shown to be double-blind, in the sense that no subject at 6-month follow-up claimed to be aware of the existence of an alternative experimental condition. It could conceivably be argued that control group subjects were less likely to be satisfied with the materials received and therefore less likely to try to please researchers by reporting a favorable outcome. Indeed, a specific question at the 6-month follow-up point revealed that a significantly higher proportion of manual than control group subjects were "satisfied" with what they had received. Manual group subjects were also significantly more likely to say that they had enjoyed their booklet and that it had helped them, although not more likely to say that they had finished reading it. Moreover, in the sample as a whole, there were low but significant correlations ($p < 0.01$) between these variables and percentage reductions in weekly consumption from baseline. Thus, it is conceivable that manual group subjects were responding to an unknown extent to demand characteristics of the experimental situation.

Despite this problem of interpretation, however, there appears to be no alternative to the use of self-reports in research of this kind, in view of the expense of attempting to interview collaterals or obtain blood samples from subjects so widely geographically dispersed. We did

obtain such confirmatory data on a small sample of subjects living in a circumscribed area (Glasgow) at the one-year follow-up point, but this limited evidence does not alter the self-report basis of our main conclusions. Thus, although it is important to remain cautious in interpreting self-reported data, the only alternative is to give up doing this kind of research and leave the effectiveness of widely distributed self-help manuals unevaluated.

Given that problem drinkers' self-reports in general have created methodological difficulties, it might be thought that self-reports collected soley through the post, with no personal contact whatever with research subjects, would be especially contentious. There appears to be little previous research that is directly relevant to this issue. In a longitudinal study of changes in problem drinking, Clark and Cahalan (1976) reported little evidence of differences related to alcohol use or drinking problems between respondents personally interviewed and those who returned mailed questionnaires. These authors refer to a study by Hochstim (1967), who found that data collected from personal interviews, telephone interviews, and mailed questionnaires were "virtually interchangeable." Nevertheless, in view of obvious possible objections to mail-only data, we decided to interview a subsample of respondents by telephone, on the ground that the rapport presumably present in such interviews might make for more valid information. The telephone subsample also provided an opportunity to collect more extensive data—for example, regarding the degree of alcohol dependence—than could reasonably be obtained from the mailed questionnaire, which was deliberately kept as short as possible so as not to tax the respondent's patience. An inducement of 5 pounds was offered for each of these telephone interviews. As we shall see, the decision to include a telephone subsample led to some complications in the interpretation of results, although it also yielded a potentially very interesting finding.

A third problem has to do with the high rates of attrition that must be expected in this kind of research. Of the 785 individuals who responded to the advertisement and were sent a self-help manual or control booklet, 538 either failed to return assessment questionnaires or refused to be interviewed by telephone. Fortunately, these dropouts were almost equally distributed among the two groups, with 127 respondents remaining in the manual group and 120 in the control group. Nevertheless, this rate of attrition would be disastrous if we were concerned with survey research and the statistics of point estimation, where we wished to estimate the true value of a certain variable, say the previous week's alcohol consumption in a given population, by obtaining data from a representative sample of that population. But this, of course, is not at all the object of the research. Rather, we were concerned to test

a specific hypothesis, that receiving a self-help manual after responding to a newspaper advertisement would be more beneficial than receiving a nonspecific control booklet. It is therefore the statistical logic of hypothesis testing that is relevant. Given that the two groups did not differ on any relevant variable in the initial assessment data, the manual and control groups are statistically comparable. Obviously, we can have no idea of the impact of self-help materials in the entire sample of 785 respondents and can make no statement regarding the relative effectiveness of the materials sent among this larger sample. However, confining attention to the 247 respondents who returned assessment questionnaires, a valid test of the hypothesis under examination is possible. I have devoted some space to this elementary issue because there appears to have been some misunderstanding about it.

Of the 247 left in the sample, a further 115 failed to respond or could not be contacted at the 6-month follow-up. On this occasion, there was a significant difference ($p < 0.05$) in the proportions remaining in the two groups, with 78 (59.1%) in the manual group and 54 (40.1%) in the control group. At the one-year follow-up point, 137 of the 247 initially contacted had been lost and, of those remaining, 63 (57.3%) were in the manual group and 47 (42.3%) were in the control group ($p < 0.05$). These follow-up attrition rates create more serious problems of interpretation, despite the fact that there was no significant difference between groups on initial measures at either follow-up point and also no significant interaction between the two variables manual versus control group and followed-up versus not followed-up. Nevertheless, the fact that significantly more respondents were contacted in the manual than in the control group must be taken into account. If the usual assumption is made that those lost to follow-up tended to do less well than those remaining in the sample, it is important to note that this would work against the hypothesis under examination and would tend to minimize any possible superiority in effectiveness of the self-help manual. On the other hand, if it is assumed that the lost respondents did better than the remainder, this would favour the hypothesis and possibly lead to a spuriously significant difference in favor of the manual group. As we shall see, there are grounds for speculating that the lost respondents may have had a superior outcome.

It should also be noted that the initial contact rate of 31.3% could be regarded as the minimum take-up rate of self-help materials and it is interesting that there was little difference between the two groups in this respect. On this basis of lessons learned from the past experience, ways might be devised to increase the numbers of respondents who return questionnaires. For example, it might be possible to make the provision of materials conditional on the prior receipt of a completed questionnaire. Another suggestion is to make this equivalent to an entry in a

lottery with an inviting first prize. Similarly, the proportion of 53.4% who responded to the 6-month and the 44.5% to the one-year follow-up could be regarded as minimum follow-through rates and, again, ways of increasing these might be tried in future research. It is a finding of this research that the differential contact rate was significantly higher in the manual group at 6 months and thereafter remained roughly constant. This suggests that, although the initial take-up rate of the self-help manual was no better than that of the control booklet, its follow-through rate was superior.

A final problem, which is not specific to self-help research but to all research on controlled drinking treatments, is how satisfactorily to define the favorable outcome of controlled drinking. There is a specific implication for self-help manuals, however, because the definition used for controlled drinking must obviously be reflected in the advice given to problem drinkers regarding the setting of daily and weekly limits. The limits recommended in our manual, and the definition for a controlled drinking outcome used in the research, were 50 standard units of alcohol per week for men and 35 for women.

It is apparent from an international perspective that these limits are often regarded as alarmingly high. One source of confusion here is due to the fact that different measures are being used for standard units and this should be cleared up without further delay. Our standard unit is based on one half pint of 4% alcohol-content beer, which contains 1.05 cl. pure ethyl alcohol. (Because British and American fluid ounces differ, it is best to ignore this unit of measurement in calculations.) This is roughly equivalent to an average British pub measure of spirits (⅙ gill, 0.94 cl.) or table wine (1.04 cl.) or fortified wine (1.12 cl.). It is therefore convenient to regard these different drinks as equivalent in alcohol content and as equalling one cl. ethyl alcohol or one standard unit. This contrasts with the American standard unit (e.g., Miller & Muñoz, 1982), which contains 1.5 cl. alcohol. Thus our male and female weekly limits are roughly equal to 33 and 24 American standard units, respectively.

The limits we used for men were roughly equivalent to those proposed in a report which has proved highly influential in Britain, by the Royal College of Psychiatrists (1979). It was further employed to define "heavy drinking" in a large, nationwide survey of British drinking habits by Wilson (1980), who also used 35 units to define female heavy drinking. The evidence for using these particular limits appears to be that, for men at least, they represent the point at which risk of drinking symptoms, particularly alcohol-related tremor, begins to rise significantly (Armor *et al.*, 1978; Edwards, Chandler, Hensman, & Peto, 1972) and the level at which the risk of liver damage begins to increase (Pequignot, Chabert, Eydoux, & Courcoul, 1974).

Although these particular limits are somewhat higher than those

given in other advice to the general public (Health Education Council, undated), they do have the advantage of being achievable, especially in a sample over which the researchers had so little direct influence. More conservative goals may have demoralized some problem drinkers and hence proved counterproductive. It is also important to note that readers of the manual were advised to abstain on at least one day a week but preferably more, thus decreasing the likelihood that they would drink to the maximum permitted limits. Moreover, it was stressed that the limits given were maximum upper bounds and not norms for drinking. Other guidelines given in the manual for the distribution and frequency of drinking meant that the maximum limit of 50 or 35 units would be difficult to achieve if instructions were properly followed and, indeed, this seems to be borne out by the quantities being consumed by successful responders at follow-up.

Despite these arguments, it would appear that our limits are still higher than other workers in the field would recommend. In a survey of relevant authorities, Anderson, Cremona, and Wallace (1984) asked what limits workers felt were appropriate in advice to the public and plotted a frequency distribution of the replies. There were two modes in the distribution of limits for men, one at 20 units and one at about 36 units. Bowing to this consensual pressure, therefore, we have lowered out recommended limits in a revised version of the self-help manual (Roberton & Heather, 1985) to 35 for men and 20 for women. Nevertheless, we would continue to insist that the placement of recommended limits should be based on empirical evidence and not on moral, perhaps "neo-prohibitionistic", sentiments or the personal preferences of the authors of self-help manuals.

Six-Month Follow-Up Results

Six months after receiving their materials through the post, the 247 respondents remaining in the sample were sent a follow-up questionnaire and 132 replies were received. Measures recorded, which had also been taken at initial assessment, included standardized, scaled scores on seven factors relevant to treatment evaluation that had been identified and refined in an extensive program of statistical analysis at the Fort Logan Mental Health Center (e.g., Foster, Horn, & Wanberg, 1972) and the Human Factors Laboratory, University of South Dakota (Ellingstad, 1977; Swenson & Clay, 1980). These factors were Marital Problems; Control of Drinking Problems; Income/Employment Stability; Physical Health and Well-being; Residential Stability; Social Interaction; Control of Drinking. In addition, respondents were asked a series of questions about their reaction to the booklet sent them—whether it had been what

was expected, how much had been read, whether the respondent had been helped by it, and so on. Weekly consumption was recorded by a self-completion method adapted from Chick and Duffy (1981). At initial assessment, respondents in the telephone subsample had also been given the shortened Michigan Alcoholism Screening Test (MAST) (Selzer, Vinokur, & van Roisjen, 1975) and the Edinburgh Dependence Schedule (Chick, 1980). It was established that the evaluation was double-blind, in that no respondent claimed to be aware of an alternative experimental manipulation and no telephone interviewer was aware of which group the respondent belonged to.

Changes in weekly consumption from initial to 6-month follow-up for manual and control groups are shown in Figure 2. (This figure is based only on subjects who provided data at both 6-month and one-year follow-up points.) On an analysis of covariance, the manual group showed a significantly greater reduction in consumption than the control group ($p < 0.05$, one-tailed test). When changes in drinking were expressed as percentages of individual initial levels, the difference between groups was significant (Mann-Whitney, $p < 0.05$, one-tailed test), with the manual group showing a mean reduction of 40.2% and the control group of 25.2%. Moreover, when 30 respondents who had stated that they had obtained an alternative form of treatment after having received the self-help materials were excluded from the analysis, on the ground that their changes in consumption may have been primarily due to an extraneous influence, the absolute reduction in mean consumption was significantly different in favor of the manual group ($p < 0.05$).

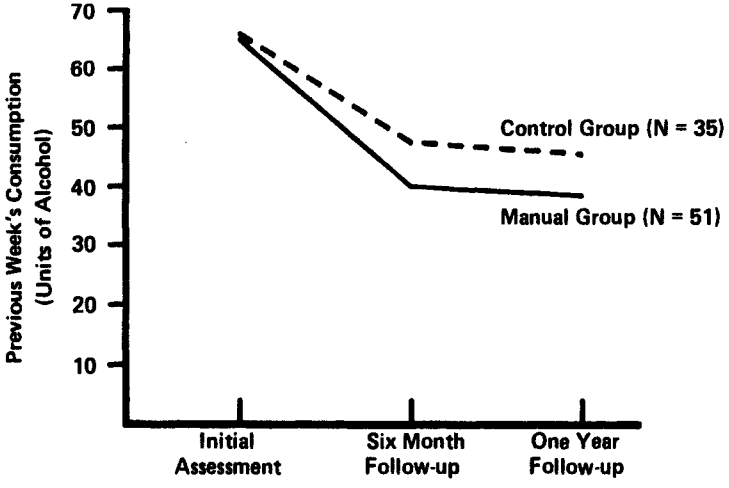


FIGURE 2. Changes in consumption for manual and control groups.

Finally, the manual group showed significantly greater improvements on the Physical Health and Well-being and Control of Drinking Problems ($p < 0.05$). Thus, there is evidence that the self-help manual produced greater reductions in consumption among those remaining in the sample than the control booklet, accompanied by improvements on obviously relevant variables.

Figure 3 shows changes in consumption separately for the postal and telephone subsamples. Independently of any differences in changes between manual and control groups, the telephone subsample showed significantly greater improvements on Control of Drinking Problems ($p < 0.001$), Physical Health and Well-being ($p < 0.05$), and Residential Stability ($p < 0.05$). However, despite the fact that the mean percentage reduction for the telephone subsample was 48.4% compared with 28.6% in the postal subsample, there were no significant differences for absolute or percentage reductions in consumption. The telephone subsample did contain a significantly greater proportion of respondents who had reduced their drinking by more than 10 units per week (Chi-square, $p < 0.05$).

There are, of course, at least two ways of explaining the apparently superior outcome in the telephone subsample. It could be due to the demand characteristics of the interview situation, in view of the presumed rapport with the interviewer and the fact that respondents were being paid to take part. On the other hand, it could be a valid superiority resulting from a greater degree of contact with researchers. That research interviews in general may have some kind of therapeutic effect is

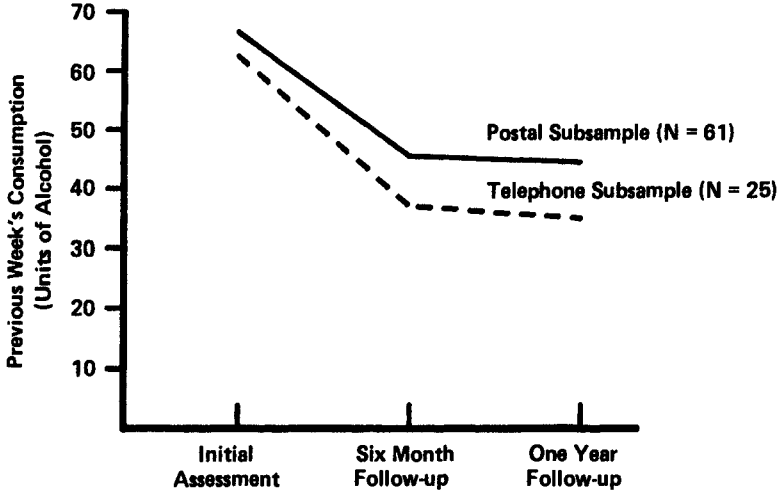


FIGURE 3. Changes in consumption in postal and telephone subsamples.

now well recognized (e.g., Sobell & Sobell, 1981) and, furthermore, evidence from the weight-reduction and smoking-cessation fields has suggested that minimal interventions may be made more effective by some amount of therapist contact (Brownell, Heckerman & Westlake, 1978; Glasgow, Schafer, & O'Neill, 1981), although there is conflicting evidence here (Jeffrey, Danaher, Killen, Farquhar, & Kinnier, 1982). Nevertheless, this possibility will be returned to.

A curious, incidental finding at the 6-month point was that, when those remaining in the sample were compared with those who had dropped out, the latter were found to show significantly higher scores on the factors Income/Employment Stability ($p < 0.001$) and Residential Stability ($p < 0.01$), and were more likely to be married ($p < 0.05$) and in current employment ($p < 0.05$), whereas their scores on Social Interaction were nearly significantly higher. These variables are almost definitive of social stability, a construct with a long history in alcoholism research (Straus & Bacon, 1951). The finding is surprising because, in terms of conventional treatment evaluation, it is those showing lower social stability who are less likely to be successfully contacted at follow-up (Sobell, Sobell, & Ward, 1980). On a purely speculative basis, it may be reasoned that, because higher social stability is associated with a better prognosis in treatment (see, e.g., Gibbs & Flanagan, 1977) and with a greater probability of spontaneous recovery (Tuchfeld, 1976), respondents lost to follow-up in this study improved rapidly without resorting to the materials received and therefore felt no need to remain associated with the project. On the other hand, if the more usual assumption is made that those lost to follow-up tended to have a poorer outcome, this suggests that we are in a very different situation from conventional treatment evaluation, but also raises the possibility that mailed self-help materials may be especially appropriate for problem drinkers of relatively low social stability. My own guess is that the low-response and follow-up rates encountered in this project were due to the fact that advice advertised in the media is particularly attractive to those who are most sensitive to the stigmatizing propensities of the formal treatment process. Thus the more "respectable" respondents, whether they had benefitted from the materials sent them or not, tended to avoid any further involvement.

It has already been pointed out that the unobserved outcome of those lost to follow-up is crucial to the interpretation of the results of this study, in view of the differential follow-up rates in manual and control groups. If those lost to follow-up had a poorer outcome, as is usually the case in conventional treatment evaluation, then the observed superiority of the manual over the control group is probably a valid result and may even be based on an underestimate of this superiority. Conversely, if for

reasons connected with a higher level of social stability, dropouts had a better outcome than those who were contacted, then the observed superiority of the manual group may well be spurious.

A last type of finding from the 6-month follow-up must be briefly mentioned. Although the self-help manual clearly stated that it was not intended for those experiencing serous problems, some of these did remain in the sample and it is of interest to know what became of them. Two criteria were used to define a more serious problem: first, those in the total sample drinking over 100 units per week at initial assessment (n = 25) were distinguished from those drinking at or below this level (n = 102); secondly, respondents in the telephone subsample giving evidence of "late dependence" (n = 10) on the Edinburgh Dependence Schedule (Chick, 1980), which includes severe restlessness, morning tremor, and relief drinking, were divided from those showing early or no dependence (n = 22). Preliminary analyses indicated that both these criteria were associated in the sample with greater alcohol-related problems and other relevant variables.

At the 6-month point, high consumers showed a significantly greater reduction in consumption (139.3 to 63.3) than the low consumers (44.9 to 32.4) ($p < 0.05$). When percentage scores were used, the significantly greater improvement on the part of high consumers was maintained. It must be recognized immediately that these results are clearly subject to artifacts arising from the way in which groups were formed—a floor effect that applies to the absolute reduction scores and a regression towards the mean effect that applies to both absolute and percentage reduction measures. However, the same objections do not apply to the other criterion of seriousness, the stage of dependence on alcohol, although here the small numbers entering the analysis becomes a problem. There was no significant difference in reduction measures between late dependence and early/no dependence respondents. Previous week's consumption among late dependence respondents was reduced from 78.3 to 24.8 units, whereas among early/no dependence respondents it was reduced from 56.4 to 43.3 units. (See Figure 4, which applies only to those giving data at both follow-up points.) These results cannot be explained by any greater tendency for serious problem drinkers, under either definition, to become total abstainers or to seek help from other sources. Although the numbers on which the analysis was based are very small, there is also some evidence that high consumers benefitted relatively more from the manual than the control booklet, in that a significantly greater proportion reduced drinking from over to under 100 units per week (Fisher-Yates Exact Test, $p < 0.05$). Certainly, the evidence suggests that the beneficial effects of both kinds of material

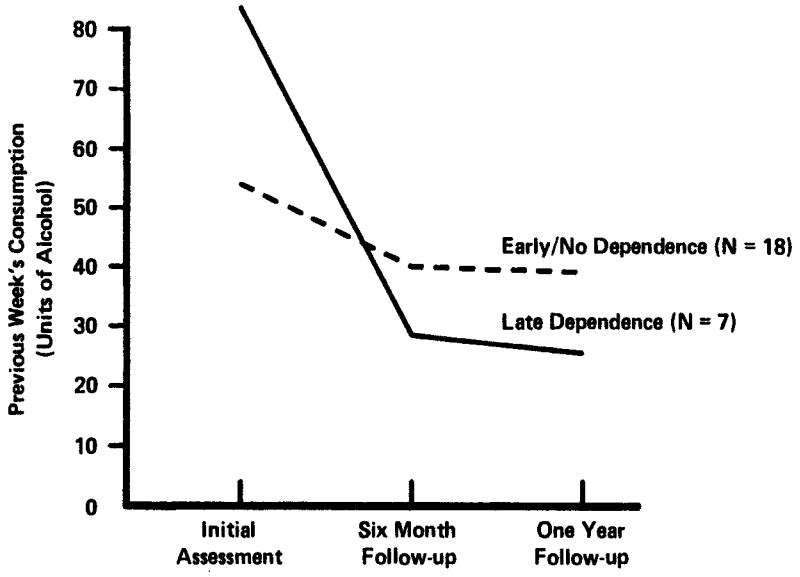


FIGURE 4. Changes in consumption in late dependence and early/no dependence groups.

were not limited to those drinking relatively less or showing only early dependence on alcohol.

ONE-YEAR FOLLOW-UP RESULTS

Altogether 110 individuals responded to the one-year follow-up, 63 from the manual and 47 from the control group. As previously stated, the difference in proportions between the two groups was statistically significant ($p < 0.05$). However, as at the 6-month point, there were no significant differences between the groups on initial measures and no significant interaction between group and whether or not respondents were successfully followed-up. The total of 110 respondents includes 22 who were not contacted at 6 months and 88 who provided data on all three testing occasions.

There are at least two ways of analyzing the one year outcome data. The first restricts attention to changes between initial assessment and one-year follow-up, using all 110 respondents with data at both points. Mean previous week's consumption had been reduced from 59.6 to 39.9 units in the manual group and from 64.2 to 46.5 units in the control group, but the difference in absolute reductions was not significant on an analysis of covariance whereas the difference in percentage reduc-

tions between groups was also nonsignificant. As at the 6-month point, respondents were asked whether they had received any other form of help since the last contact, and those who had replied positively on either occasion were excluded from the analysis. When this was done, the difference in absolute reductions in consumption between groups was statistically significant ($p < 0.01$). The manual group also showed a significantly greater improvement in Social Interaction ($p < 0.01$) and a nearly significantly greater improvement in Marital Problems ($p < 0.10$).

Comparing the two subsamples, there was no significant difference in consumption measures, but the telephone respondents showed significantly greater improvements in Control of Drinking Problems, Physical Health and Well-being, Residential Stability, and Social Interaction and a nearly significantly greater improvement in Marital Problems ($p < 0.10$). Thus the apparently superior outcome for the telephone subsample observed at 6 months had spread to a higher number of relevant variables at one year.

With regard to the analysis of more serious problems, there were no significant differences between high and low consumption groups for both absolute and percentage reduction measures. A similar finding appeared for the "dependence" criterion of seriousness; there was no significant difference between early/no dependence and late dependence groups, irrespective of the kind of material they received. (See Figure 4.) Incidentally, there was no tendency at the one-year point for respondents who had dropped out since the 6-month follow-up to appear more socially stable than those who remained in the sample.

The other way to analyze outcome at one year is to consider only those 88 respondents who provided data at all three points. Figures 2 and 3 give mean previous week's consumption scores over time for manual and control groups, and postal and telephone subsamples. These figures show that, for all groups and samples, there is relatively little change in consumption between 6 months and one year, and that the gains that had been made at 6 months were retained at one year. However, on a repeated measures analysis of variance, there were no significant differences between groups or subsamples. On the other hand, the manual group showed a significantly greater improvement in Social Interaction compared with the control group, whereas the telephone subsample showed significantly greater gains in Control of Drinking Problems, Physical Health and Well-being, and Social Interaction compared with the postal subsample. Changes in consumption for telephone respondents with all three sets of data are shown according to late or early/no dependence in Figure 4, which also makes clear the small numbers on which these data are based.

It has already been mentioned that, as part of the one-year follow-

up, an attempt was made to conduct personal interviews with a subsample of respondents in which blood samples would be taken and collateral information collected. All those giving addresses in the greater Glasgow area (n = 52) were sent a letter inviting them to take part in a personal interview and offering 5 pounds for doing so. Thirty-eight (73.1%) replied and, of these, 20 (38.0% of the Glasgow total) agreed, with 13 coming from the manual group and 7 from the control group. A fuller account of the results of these interviews is given elsewhere (see Heather, Robertson, et al., in preparation).

The 20 respondents eventually interviewed are clearly a very limited and in many ways unrepresentative subsample of the problem drinkers who participated in this study. Bearing this firmly in mind, however, the results give some grounds for confidence in the reliability and validity of self-reported data collected through the post or by telephone. First, only two respondents, one in each group, showed a positive blood alcohol concentration (BAC) at interview and, in the case of the manual group respondent, this was consistent with a high level of self-reported consumption. Second, although the rank-order correlation between self-reported consumption and gamma-glutamyl-transpeptidase (GTP) was low (0.35) and nonsignificant, in only two cases was a self-report of under recommended limits accompanied by a gamma-GTP of over 50 international units. The limitations of gamma-GTP in the screening of problem drinkers have been noted by Chick, Kreitman, and Plant (1981). Third, in no case was a collateral report of recent consumption seriously discrepant from the respondent's self-report and, finally, self-reported estimates of previous week's consumption showed a high degree of correspondence with estimates made for the same week in the personal interview on the basis of intensive questioning. There are obvious grounds for believing that the Glaswegian respondents who agreed to be interviewed were likely to have been more honest about their drinking that those who did not agree, but these results at least suggest that a substantial proportion of the self-reported data gathered in the main follow-ups was sufficiently valid.

Besides a check on reliability and validity, a further reason for conducting the personal interviews was an attempt to determine whether the apparent superiority of results in the telephone subsample was a genuine effect. In the event, the interview subsample was too small to allow any conclusion in the regard to be reached. This problem must await a further study, specifically designed with the problem in mind. The interview data also covered several other areas of interest and a paper describing different ways in which the self-help manual was put to beneficial use is currently being prepared (Allsop, Heather, & Fulton, in preparation).

Summary of Findings

The most important findings of the research concern the comparison between manual and control groups. There was evidence from the 6-month follow-up that, among those remaining in the sample, the manual produced greater absolute and percentage reductions in alcohol consumption and that this was accompanied by greater improvements in physical health and well-being and in degree of social interaction. When respondents who said they had received other forms of treatment since receiving self-help materials were excluded from the analysis, the manual group showed a significantly greater absolute reduction in mean consumption. At the one-year follow-up, differences in reductions between groups, in both absolute and percentage terms, were not statistically significant. However, when those who claimed to have received other treatment at any time after initial contact were excluded, manual group respondents again showed significantly greater absolute reductions.

The interpretation of these results is complicated by two factors. First, because of the reliance on unsupported self-report data, there is a possibility that manual group respondents were subject to greater demand characteristics of the experimental situation, a possibility that arises because of their greater degree of satisfaction with the materials sent them. Second, because of significantly different rates of contact between the groups, the validity ascribed to the observed superiority of the manual group depends to a great extent on the unobserved outcome of those respondents who dropped out of the study. In view of the greater social stability of these lost respondents at 6-month follow-up, it is possible that this observed superiority could be spurious.

Another important set of findings concern differences in outcome between postal and telephone subsamples, which occurred independently of differences in changes between groups. Although the greater mean reductions in consumption in the telephone subsample failed to reach statistical significance at either follow-up point, telephone respondents showed greater improvement on a variable measuring alcohol-related problems at the 6-month point and also greater improvements in physical health and well-being and even residential stability. At the one-year follow-up, this superiority in outcome had extended to degree of social interaction. There are two ways of explaining this observed superiority: An artifactual consequence of the greater demand characteristics associated with a telephone interview and with payment for taking part; or a valid result reflecting a therapeutic effect of follow-up interviews. A further experiment is needed to investigate these competing explanations.

Comparisons between outcomes for serious and less serious prob-

lem drinkers also form an important aspect of the results. Under both criteria of seriousness—initial consumption above 100 units per week and some evidence of late dependence—serious problem drinkers were shown to have reduced drinking to an extent at least equal to that of less serious problem drinkers at the 6-month and the one-year follow-up points. However, the interpretation of these findings is again complicated, in one case by the method by which groups were formed and, in the other, by the small numbers entering the analysis. Bearing these difficulties in mind, it is probably safe to conclude that, on the evidence of the study, the potentially beneficial effects of self-help materials are not entirely confined to relatively low-consumption or early dependence problem drinkers. There was also some tentative evidence to suggest that the specially prepared self-help manual was superior to the control booklet in assisting high consumers to reduce consumption.

Finally, in the sample as a whole and irrespective of the kind of material received, considerable improvements in adjustment were observed. As an illustration of this point, among respondents who reported drinking above recommended limits at initial assessment and who were successfully contacted at the 6-month follow-up, fully 60% had reduced their drinking to below these limits and by at least 10 units per week. The mean percentage reduction in consumption in the total follow-up sample at 6 months was roughly 34% and significant improvements were observed for all the other measures of adjustment. Obviously, without a no-treatment control group, these gains cannot be logically attributed to the materials sent. It may be, for example, that simply taking the trouble to respond to a newspaper advertisement is symbolic of a shift from contemplation to action and that the process of spontaneous remission, however it is accomplished, would itself have resulted in the improvements observed without any additional help. Nevertheless, the results of the study give some grounds for optimism in the effectiveness of minimal interventions of this kind and at least suggest the potential usefulness of further research into controlled drinking self-help manuals that bridge the gap between alcohol education and treatment.

OTHER RESEARCH PLANNED OR IN PROGRESS

We would defend the design of the study, despite the methodological problems which arose, on the ground that it provided a basic starting point for the evaluation of a controlled drinking self-help manual used in its natural setting. It is clear, however, that some interesting and unresolved questions remain after the completion of the study.

An experiment is now being planned in which greater control would be exerted over information relevant to the effects of self-help materials. The sample studied would be more highly selective and confined to a limited geographical area, thus allowing personal interviews and collateral data to be collected at follow-up. All respondents would be asked to agree to these conditions before entering the study and a lottery system could be used to encourage higher rates of successful follow-up. The opportunity would be also taken to examine what is perhaps the most interesting hypothesis to emerge from the previous experiment, that some form of additional, minimal contact significantly enhances the effectiveness of a self-help manual. Thus a group that received only assessment telephone interviews at follow-up would be compared with one that received monthly, supportive telephone interviews in which progress was systematically reviewed. Given sufficient numbers, a further group could simply be asked to provide monthly reports of progress to a telephone answering service. This project is still in the planning stage.

Meanwhile, other projects investigating the effects of various modes of self-help in different contexts are underway or about to begin at the Addictive Behaviours Research Group. One involves the evaluation of the DRAMS Scheme in a general practitioner setting. DRAMS, which stands for Drinking Reasonably and Moderately with Self-Control, was developed by the Scottish Health Education Group on the basis of our self-help manual (Robertson & Heather, 1983) to provide GPs with an interactive and cost-effective method of responding to low-dependence problem drinkers encountered in their practice. At the initial consultation, the possibility of a problem with alcohol is raised with the patient, a blood test is taken for the measurement of gamma-GTP and mean cellular volume, and the patient is given a self-monitoring card to take away. At the second consultation 2 weeks later, both sets of data are reviewed with the patient and a shortened version of the self-help manual is provided with instructions on how best to use it. Further appointments are then made as necessary.

The viability and attractiveness of the scheme to GPs and patients has been demonstrated in a pilot project in the Scottish Highland region but this was not a controlled evaluation. In our study, after excluding individuals with too high levels of dependence and others who are not suitable for a controlled drinking goal, patients are randomly allocated to one of three conditions: (a) DRAMS; (b) an advice group in which the GP gives strongly worded advice on the need to cut down but no further contact is initiated; (c) a nonintervention control group. So far, 104 patients have entered a trial and a blind, 6-month follow-up including biochemical and collateral data has begun.

Another project about to start concerns the relative effectiveness of various levels of minimal intervention among low-dependence problem drinkers whose alcohol consumption has either caused or aggravated their medical condition. Estimates of the proportion of such individuals found on medical wards range from 10% to 30% (see, e.g., Jarman & Kellet, 1979; Quinn & Johnston, 1976). Research by Chick, Lloyd, and Crombie (1984) found that patients given a 30- to 60-minute counseling interview by an experienced nurse before discharge from hospital fared better at one-year follow-up than those who had not (see Ritson, Chap. 18, this volume). Our study will compare the following conditions: (a) a group that receives an assessment interview only; (b) a group that receives a structured interview lasting about 45 minutes and based on self-management principles; (c) a group that, in addition, receives a self-help booklet to take away that encapsulates the conclusions arrived at in the structured interview; (d) a group that receives, as well as the preceding procedures, monthly supportive home visits. Blind follow-up, which again will include data confirmatory of self-report, will be at 6 months after discharge.

A novel feature of this study is that it will involve parallel investigations of minimal interventions directed at a controlled drinking and an abstinence outcome, taking both medical opinion and the patient's wishes into account. If medical opinion allows some continued drinking but the patient prefers abstinence, the latter goal will be paramount. If, on the other hand, medical opinion demands abstinence but the patient insists despite strongly worded warnings on continuing to drink, the patient is excluded from the study and offered controlled drinking treatment on an individual basis, allowing the goal to be revised in the future. In the majority of cases, of course, no disjuction between medical advice and the patient's preference is anticipated. The decision as to goal will be arrived at before random allocation to the minimal intervention condition. This is the first time, to our knowledge, that a minimal intervention has been directed at total abstinence.

These projects only skim the surface of possible research in the area of self-help manuals and minimal interventions generally. (For a fuller discussion, see Heather, 1986.) We know very little about the kinds of problem drinker who are most suited to this kind of approach and the best methods by which they may be recruited and encouraged to take advantage of self-help procedures. At the same time, we need more information on the types of problem drinker for whom self-help approaches are likely to be ineffective and who are best channeled into traditional, face-to-face therapeutic situations. The variables of degree of seriousness of alcohol-related damage and of degree of alcohol dependence are most obviously relevant to this issue but other variables may

be involved. The limits of application of minimal interventions cannot merely be assumed on *a priori* grounds but must be empirically determined.

A whole collection of variables bear on the issue of the cost-effectiveness of the means by which the problem drinker's own efforts at self-help can be encouraged and assisted. These variables include the number of clients who can be reached; the proportions who take up, follow through with, and respond positively to different vehicles for the promotion of self-help; the cost of preparing, distributing, or communicating self-help materials; and the level of training and amount of time spent by professional or paraprofessional workers who may be involved in the dissemination of self-help procedures. As well as written materials, a range of other media, including audiotapes, videotapes and home computer programs, can be envisaged (see Christenson, Miller, & Muñoz, 1978).

Finally, it is attractive to imagine a series of self-help programs ordered rationally according to Prochaska and DiClemente's model of the change process, with qualitatively different types of material, with different aims, being directed at the Precontemplation, Contemplation, Action and Maintenance stages.

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18

Dependence and Compulsion

Experimental Models of Change

HOWARD RANKIN

INTRODUCTION

Prochaska and DiClemente (1982) suggest that behavioral techniques are most influential and valuable to the action and maintenance stages of their proposed model of change. The work reported on here suggests that they do indeed have great value at these stages, but also suggests that benefits can be derived at all levels and phases of realizing, coming to terms with, and really doing something about, the perceived problem. It is likely that, like the research reported here, behavioral treatments have effects on attitudes, expectations, and cognitions, and have utility not only in the action and maintenance phase, but in the early contemplative stages of the process.

Alcohol Dependence

In recent years the notion of alcohol dependence has begun to replace more specifically disease-oriented concepts of alcoholism. Numerous models of dependence and ways of measuring it have been produced, but the one that has attracted most widespread interest and generated most research has been Edwards' Alcohol Dependence Syn-

HOWARD RANKIN • St. Andrew's Hospital, Billing Road, Northhampton NN1 5DG England.

drome. This syndrome, as posited by Edwards (1977), represents an "observable coincidence of phenomena" and, overall, a hypothetical, psychophysiological condition. Most of the features of the proposed syndrome are now well known and are included in Table 1.

At the time of its presentation, the Alcohol Dependence Syndrome as described had several advantages over contemporary thinking. It consisted of empirical, testable assumptions that seemed more coherent and consistent than previous definitions and took into account those facts suggesting that the disorder is not a single, monolithic entity but a continuous and individually colored process.

However, the Alcohol Dependence Syndrome is not without its critics. First, there is resistance in some quarters to the medico-political overtones of the model. Critics argue that the term *syndrome* gives the model a degree of medical respectability that is not warranted. Moreover, such a term is seen by some as an attempt to keep what is ostensibly a psychosocial problem clearly in the realm of the medical profession. These critics (e.g., Shaw, 1980) continue to argue that there is no need to make generalized quasi-medical statements when the problem is an individual, psychological one. It is also argued that what is really being described is merely the escalation of drinking and that, to all intents and purposes, the degree of dependence merely corresponds to the amount drunk.

Most of these criticisms can be answered by appeal to research findings. Hodgson (1980), for one, has pointed out that the model is worth preserving if it has utility and value and a number of studies do, indeed, show that the model has predictive utility. For example, using the Severity of Alcohol Dependence Questionnaire (Stockwell, Hodgson, Edwards, Taylor, & Rankin, 1979) and Hodgson, Stockwell, and Rankin (1979) were able to show behavioral differences between those rated severely and those rated moderately dependent in their response to priming doses of alcohol. Similar work has been conducted by Fun-

TABLE 1.
Features of the Alcohol Dependence Syndrome

Narrowing of repertoire
Salience of drink seeking behavior
Increased tolerance to alcohol
Repeated withdrawal
Relieve/avoidance of withdrawal
Subjective awareness of compulsion to drink
Rapidity reinstatement after abstinence

derburk and Allen (1977), showing different behavioural responses in a drinking situation between those rated severely and moderately dependent. Further studies have shown differences in drinking speeds (Rankin, Hodgson, & Stockwell, 1980) differences in response to drinking cues (Rankin, Stockwell, & Hodgson, 1982) and to internal states (Laberg, 1984) between those differing in their degree of dependence. In addition to these empirical studies conducted in the laboratory, outcome studies suggest that degree of dependence is a predictive factor. Both Orford, Oppenheimer, and Edwards (1976) and Polch, Armor, and Braiker (1980) demonstrated degree of dependence as a predictive variable in treatment outcome.

One difficulty with the measure of dependence used by the previously cited studies is that they rely heavily on only some aspects of the proposed dependence syndrome, notably those related to tolerance and withdrawal. One criticism of these studies therefore is that they focus almost exclusively on the neurobiological elements of the proposed syndrome, whereas the cognitive and behavioral elements are largely ignored and unmeasured. The relationship between the psychological and physiological components of the dependence syndrome has always been a thorny problem. On the one hand, it is unreasonable to stress the separateness of one from the other, whereas joining them together in one concept de-emphasizes the individual contribution of each. Studies have demonstrated, for example, that tolerance and withdrawal are themselves environmentally determined (e.g., Siegel, 1975) and it is clear that psychological and behavioral determinants have their physiological correlates.

A more refined version of the dependence syndrome has been posited in a World Health Organization (1980) memorandum. Here the term *dependence* is substituted by the term *neuroadaptation*. In this, the physiological and behavioral dimensions of dependence are seen to be independent but related correlates that co-vary with each other. How they co-vary is a matter of research.

Even given these somewhat academic limitations of measurement and conception, the question remains as to how dependence, as currently assessed, relates to other variables at a clinical level. Some research now suggests that dependence is a dimension which is independent of the social problems and consequences of alcohol abuse. For example, Meyer, Babor, Esselbrock, Esselbrock, and Kaplan (1985) have produced factor analytic studies that demonstrate that the degree of dependence is distinct from the consequences of heavy alcohol abuse. Because it is the consequences and problems that arise as a result of heavy use that represent the main clinical difficulties, it is thus important to realize that dependence is just one part of the presenting com-

plaint. Dependence *per se* is not necessarily a clinical problem. Equally, people who are in clinical difficulties with alcohol use may not be dependent. Similar research (e.g. Skinner, personal communication) suggests that the degree of dependence may be partly independent of the quantity and frequency of drinking. In short, these studies suggest that the dependence syndrome as currently assessed represents only one dimension of the clinical presentation of alcohol-related problems.

Although it may be that the overall dimension of dependence is independent of one scale of alcohol-related problems, it may also be that extreme degrees of dependence are related to difficulties and that severe dependence is related to loss of flexibility or plasticity of response and behavior. From a behavioral viewpoint, Rankin *et al.* (1982) demonstrated that people rated severely dependent endorsed the fact that more cues elicited their drinking behavior and that these cues more frequently and intensively exerted an effect on behavior. This is supported by research and other clinical surveys which suggest, for example, that many severely dependent individuals are easily "primed up" by a drink or two, and once blood alcohol rises above a particular level, difficulties in stopping are encountered. This indeed suggests that the blood alcohol level itself is the potent internal cue for those who are rated severely dependent, in a way it is not for other individuals differing in their dependence.

DEPENDENCE AND COMPULSIONS

The fact that more cues frequently and more intensively exert their effect on behavior is an important definition, not only of severe dependence, but also of compulsiveness. This raises the whole issue of the relationship between dependence and compulsion and focuses attention on the individual's inability to exert control, the development of stereotyped behavior, and the loss of flexibility in response. This raises further questions about dependence and compulsion. Clearly, they are not the same phenomenon, but do actually share similar consequences, notably a loss of flexibility in behavior. The search for a generic concept of dependence would seem to rest on this varying dimension of plasticity and consequent compulsion. However, a word of caution is necessary here about relabeling behaviors that have compulsive elements as dependence behaviors. It may be reasonable to call those who suffer the consequences of their alcohol consumption "alcohol dependent" and those who suffer consequences as a result of heroin use "opiate dependent," but is it reasonable to call someone who is suffering an obsessive-compulsive hand-washing ritual "soap dependent"? Among other con-

ditions that have been subsumed under the catch phrase of dependence are eating disorders, and in particular anorexia nervosa, which clearly has compulsive elements; anorexia is, in my view, not a dependence at all.

TREATMENT STRATEGIES

If severity of dependence does feature compulsive elements, one way of reversing this degree of dependence and treating it where it is problematic would be to use those methods known to be of value in deconditioning compulsive behavior. One way of viewing continued drinking in the face of priming doses of ethanol and rising blood alcohol levels is to see this as an avoidance response aimed to put off or delay the onset of minimum withdrawal symptoms consequent on the blood level falling towards zero. This does place continued drinking and inability to stop once started, which is an essential difficulty of those who are severely dependent, in the same category of response as hand washing is to the obsessive-compulsive. In short, it is a discriminated operant. The development and subsequently successful use of cue exposure/response prevention methodology for the treatment of compulsive behaviors has been well researched and documented (e.g., Rachman & Hodgson, 1980). The possibility remains that such exposure/response prevention treatment could be used with severely dependent individuals in order to discuss the intense relationship between cues and inflexible behaviors, thus restoring more control to the individual.

Some initial work on the cue exposure/response prevention methodology with clients suffering alcohol related problems has showed some promise (e.g., Hodgson & Rankin, 1976) and there exist in the literature a number of case studies (e.g., Hodgson & Rankin, 1981; Rankin, 1982). More recently Rankin, Hodgson, and Stockwell (1983) reported a controlled experiment using such methodology and it is that experiment on which I now wish to focus. I will do so because some further light can be shed on the process by which experimental changes were effected.

CUE EXPOSURE: A CONTROLLED STUDY

The subjects of this experiment were 10 inpatients, all assessed as suffering from a severe degree of dependence and all of whom reported being "primed up" by initial doses of ethanol. All 10 subjects received

six sessions of cue exposure, although five received six initial control sessions consisting of imagined resistance to alcohol. Cue-exposure (CE) sessions consisted of subjects drinking an initial amount of ethanol, which typically raised their blood alcohol concentration to between 65–100 mg.%, and then resisting an available third drink for 45 minutes. The amount of temptation in the cue exposure session was maximized by asking subjects to continually interact with the third drink to be resisted by, for example, holding the glass in their hand, putting it to their lips, and smelling the alcohol. Details of the design, the experimental procedure, and the control sessions are given in Figures 1, 2, and 3. For a more detailed assessment of the procedures, the reader is referred to Rankin *et al.* (1983).

Measures

The measures taken included not only actual objective ratings of the subject's current feelings but measures of how the subject expected to feel. These expected scores were elicted at the beginning of each session when the subject was informed of the content of the up-coming experimental period and what was expected of him. In addition, physiological measures of pulse, tremor, and blood alcohol concentration were recorded.

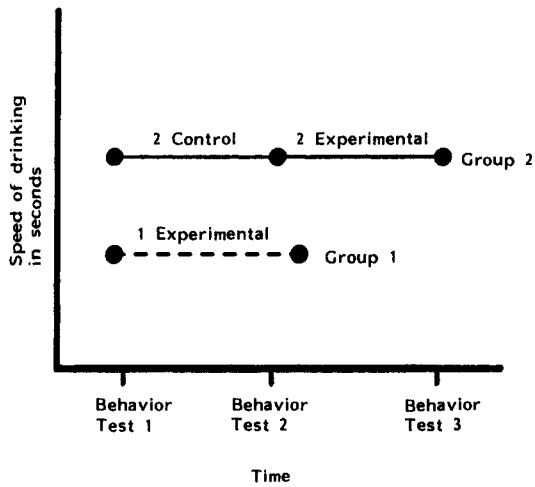

FIGURE 1. Summary of experimental design. Reprinted with permission from *Behaviour Research and Therapy, 21* (3), "Cue exposure and response prevention with alcoholics: A controlled trial." Pergamon Press, 1983.

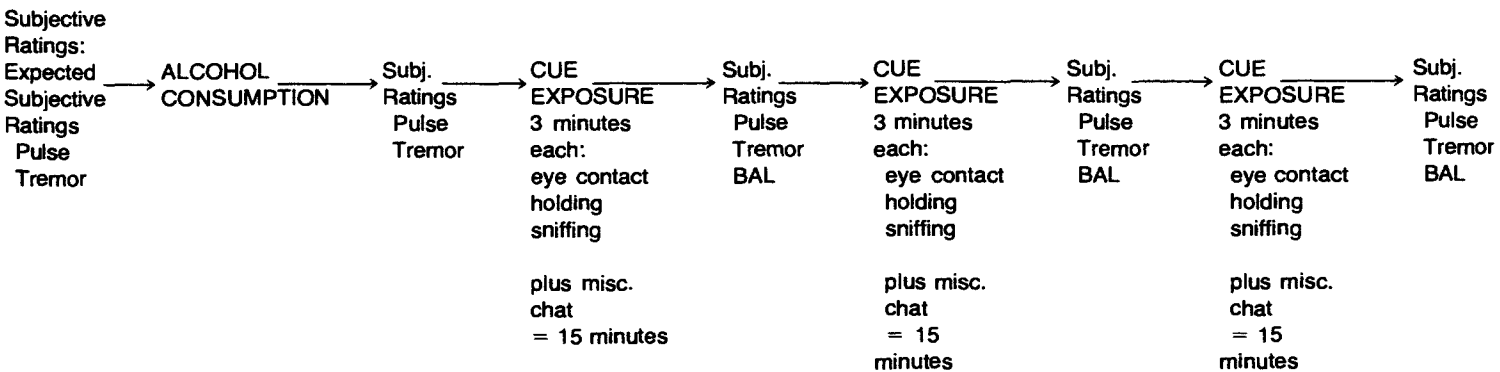

FIGURE 2. Flow chart of operations in the experimental condition. Reprinted with permission from *Behaviour Research and Therapy, 21* (3), "Cue exposure and response prevention with alcoholics: A controlled trial." Pergamon Press, 1983.

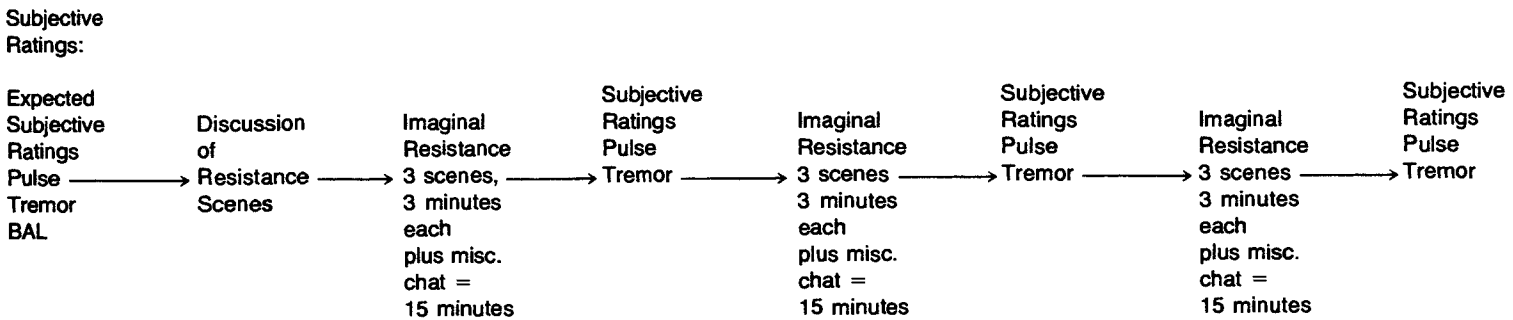

FIGURE 3. Flow chart of operations in the control condition. Reprinted with permission from *Behaviour Research and Therapy, 21* (3), "Cue exposure and response prevention with alcoholics: A controlled trial." Pergamon Press, 1983.

RESULTS

The key measures used to determine the experimental effect were behavioral, subjective, and physiological in nature. The behavioral measure was time taken to consume standard amounts of alcohol in a test that was administered before and after each condition. Such a measure has previously been validated as an indicator of degree of desire for taking an alcoholic drink (e.g., Rankin *et al.*, 1980). In addition, a variety of subjective measures, including the desire for a drink, ability to resist, anxiety, and temptation were also recorded at various frequent times throughout each session. Physiological readings, in particular pulse, hand tremor, and blood alcohol concentrations, were also taken throughout the sessions. A significant treatment effect was found on the main behavioral measure, as demonstrated in Table 2. This shows that the cue exposure condition resulted in much greater and significant decrements on this measure than the control condition. In addition, there were significant reductions on the measures of Desire for a Drink and Difficulty to Resist across the cue exposure condition and, in general, the findings were of significant decrements in the experimental condition on all subjective measures.

Despite modifications of the subjective and behavioral measures, no significant effects were found at all across the control or experimental conditions on the physiological measures thus recorded. For a more detailed exposition of the results, the reader is once again referred to Rankin *et al.* (1983).

DISCUSSION

The results presented here suggest that cue exposure methodology does indeed produce significant decrements in behavioral and subjec-

TABLE 2.
Time Taken to Consume Standard Dose of Alcohol on Behaviour Test (in Sec)

	Total time		1st–2nd[a,b] probabilities		2nd–3rd
	1st Behav. test	2nd Behav. test	*t* test (transformed)	3rd Behav. test	Behav.[c] test
Group 1 $\bar{X}$	220.0	507.8	<0.02	—	—
SD	240.4	355.8	(<0.01)		
Group 2 $\bar{X}$	243.4	303.0	NS	682.2	0.01
SD	189.6	226.6	(NS)	301.4	(0.01)

[a]1st–2nd Behav. test = experimental effect Group 1.
[b]1st–2nd Behav. test = control effect Group 2.
[c]2nd–3rd Behav. test = experimental effect Group 2.

tive measures. One of the interesting aspects of this experiment is to ask how the observed changes were effected. In the relatively short space of time, was this primarily physiological, cognitive, or behavioral change? It has been posited, for example, that behavioral treatments work by effecting changes in the following order. First, physiologically conditioned responses are changed, which then results in a reduction of avoidance behavior and, some time thereafter, subjective and attitudinal changes take place. This suggestion was made by Watson, Gaind, and Marks (1971), with the delay in attitudinal-subjective change being considered to be something of a "cognitive lag." Along this tack, it might be interesting to speculate that a more conventional psychotherapeutic approach would affect its change in a different order. With such a treatment, one might expect subjective changes first, leading to behavioral changes and ultimately physiological change.

In this experiment, no observed physiological change took place whatsoever. It would have been exciting to have been able to demonstrate modification to either pulse rate or tremor, even in the presence of a standard dose of alcohol across sessions, but this was not observed. As far as can be ascertained, there were no significant physiological changes at all. An alternative view, therefore, is that this is a basically cognitive procedure and that the repeated experience of being able to resist available alcohol when "primed-up" is actually changing the subjects' negative expectations about their ability to cope with the situation. In short, one might be modifying expectations to the point where cue exposure subjects, who did not formerly see themselves as being able to cope satisfactorily, have cognitions changed as a result of the treatment itself. Some confirmation of the notion of modified expectancies can be derived by looking at the data on subjects' expectations on the subjective measures of Desire for a Drink and Difficulty to Resist. These demonstrate that, for both measures, expectancies are significantly reduced within the cue exposure sessions for Group 2 (CE only) but not for Group one (control sessions). Comparisons between cue exposure and control conditions barely miss statistical significances (probability typically being around 0.07). More support for the suggestion that the cue exposure effect is mediated by subjective change can be found in the fact that a rankorder correlation of 0.86 ($p < .01$) was found between the change on the measures of time taken to consume alcohol in the behavioral test and changes on the subjective measure (in this case Difficulty to Resist). What this demonstrates is that those subjects who showed the most change on their subjective scores also tended to demonstrate the most change in their behavioral tests.

In addition, from an anecdotal point of view, what some subjects were actually reporting was a change of attitude about their inability to cope in such a situation. After the experimental debriefing, many sub-

jects reported initially being very apprehensive about the procedure and their ability to cope, but by the end were feeling more confident and optimistic.

It is not unreasonable to suggest, therefore, that the cue exposure methodology described here is working through a largely cognitive effect. Despite the artificiality of the hospital environment in which the treatment was conducted, the fact that the subjects actually had to drink alcohol and exercise their coping strategies in the presence of alcohol and, indeed, under the influence of it, makes this treatment more realistic than conventional verbally oriented treatments. Because one of the major problems of any therapy is getting a generalization from the therapeutic setting to real life, any such simulation would seem to be valuable. In the case of addiction, of course, the problems of state-dependent learning come into play and it is not unreasonable to suggest that individuals would need to learn coping responses in the same state as they will need to actually implement them. In this case, that involves being under the influence of a small amount of alcohol and learning relapse prevention procedures in that state, rather than in a sober one. Moreover, given the evidence about possible cognitive deficits in subjects who use alcohol regularly (see Robertson, Chapter 16, this volume), there may be real advantages in actually getting subjects practicing coping strategies and implementing them in this sort of simulated setting, rather than merely talking about proposed strategies.

Finally, further information needs to be elicited about the mechanism of action of any therapeutic cognitive change. Data from the current experiment show that expectations were modified, particularly in the Group 2 experimental subjects. Moreover, not only were changes in expectation on one measure related to changes in expectation on others, but they were also positively correlated (in some cases significantly) to changes in actual subjective scores.

The exact relationship between the actual and predicted scores remains to be elucidated. Figure 4 shows the relationship for the experimental condition of Group 2. Given the fact that the predictions were made at the beginning of each session, it could be hypothesized that discrepancies between actual and expected scores in any one session would be related to changes in the following sessions. One hypothesis flowing from a cognitive model of therapeutic change would be that where actual scores are lower than expected scores, decrements on actual subjective ratings will accrue in the following session. Where actual scores are higher than expected, an increment in the following session would be hypothesized. Given this model, group data that showed significant decrements in actual response, as was the case here, should be characterized by graphs that, by and large, show actual responses lower than expected ratings. The graphs in Figure 4 broadly support this

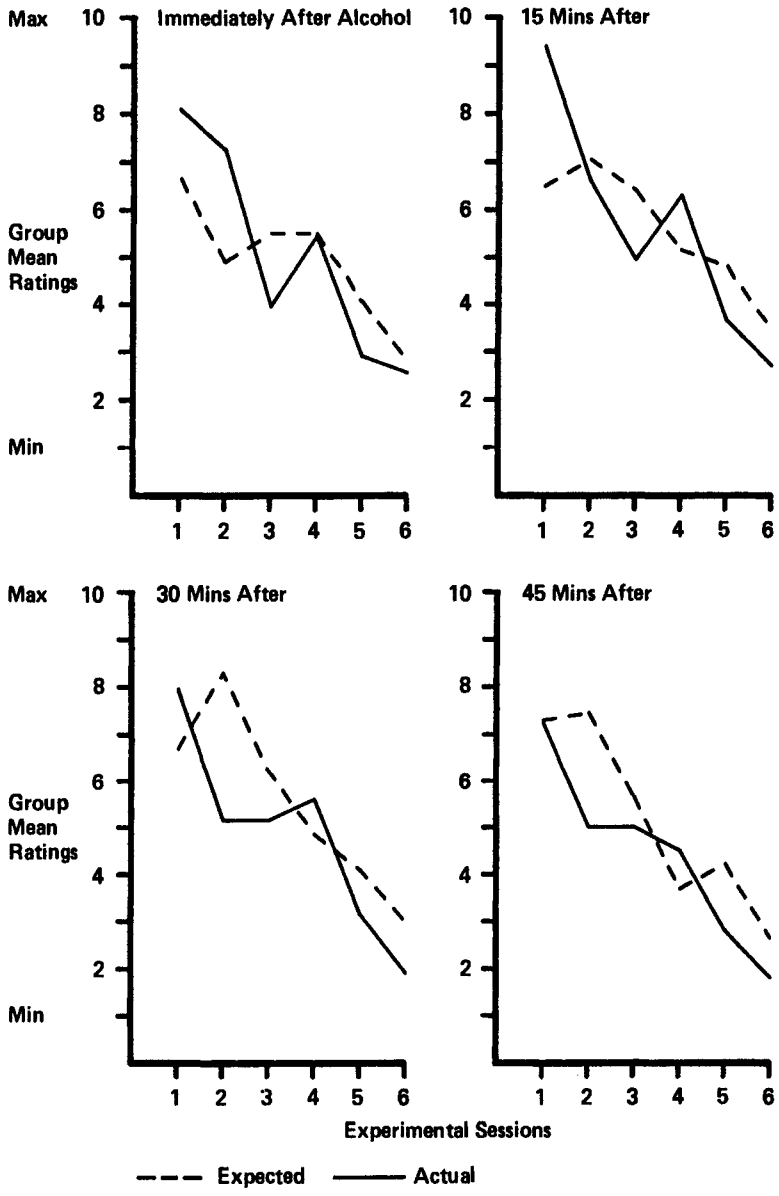

FIGURE 4. The relationship between expected and actual scores for Group 2 experimental condition. Reprinted with permission from *Behaviour Research and Therapy, 21* (3), "Cue exposure and response prevention with alcoholics: A controlled trial." Pergamon Press, 1983.

view. However, the graphs also show, against the general hypothesis, that response decrements in actual ratings occur in sessions following occasions where actual ratings were *higher* than predicted. To further explore this line of thinking, individuals' data were examined across each reading of the actual and expected ratings of desire in the experimental condition. This examination revealed that on only 32% of occasions did the actual expected discrepancies in one session lead to the predicted changes on actual ratings in the following sessions. In short, the discrepancy between actual and expected scores on one occasion did not satisfactorily predict changes in actual ratings from that occasion to the next.

Equally plausible is that actual/expected differences result in modifications of expectancies. Using the same technique as on the data mentioned previously, it was found that on 61% of occasions expectations changed in the predicted direction from one session to the next, depending on their relationship with the actual rating in the previous session. In other words, the expected/actual discrepancies were better related to subsequent changes in expectation than to subsequent changes in actual scores. Of course, much of what determined expectations in the current experiment is not available for analysis. Quite apart from individual daily variations and fluctuations, hard data are lacking on what happened after the experimental session. How subjects coped in the hours following the experimental session might reasonably be expected to influence their predictions about any future sessions.

Although the specific, no doubt complex, relationship between expectations and actual realities remains to be untangled, the evidence here suggests that, as in other studies, both are modified in the response prevention setting.

In conclusion then, cue exposure treatment of the nature described here seems to be a useful adjunct to treatment and has demonstrable effects on subjects' behavior and cognitions. It is likely that these effects are mediated by cognitive changes that help to change the client's view towards a more positive, confident conception of both his coping ability and ultimate treatment outcome.

ACKNOWLEDGMENTS

With many thanks also to Mrs. Jean Cox who typed the manuscript.

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19

Merits of Simple Intervention

BRUCE RITSON

INTRODUCTION

This chapter concerns the growth of an idea about the merits of simple intervention. At the outset, I should own up to the bias of my own vantage point, that of a psychiatrist working within the United Kingdom National Health Service. It is important to acknowledge this particular perspective because it has determined the clinical influences that I feel have been important. Shedding firmly held beliefs about treatment is a disconcerting and unnerving process, particularly when new beliefs come to be held with equal tenacity. Are the new beliefs about simple intervention based on convincing evidence or are they simply the latest fashion waiting to be discarded for the next season's model? In 1977, *The Lancet* commented on current approaches to services for alcoholics thus:

> This treatment approach owes its existence more to historical process than to science. It is possible to discern the deposits, akin to geological layers, of a sequence of therapeutic fashions—the residue of almost forgotten enthusiasms for in-patient psychotherapy units, for group processes and the therapeutic community, for family therapy and later for community psychiatry. To say that treatment for alcoholism is only an accretion of fads and fashions would be too harsh, for it is also built on much clinical experience; but it must be admitted that we have not done enough to assess scientifically the effectiveness of treatment methods. (*Lancet*, 1977, p. 489)

The history of the evolution of alcohol treatments during the past 20

BRUCE RITSON • Department of Psychiatry. University of Edinburgh, Royal Edinburgh Hospital, Edinburgh EH10, Scotland.

years in Britain is now very familiar. In 1962 the Ministry of Health encouraged Health Authorities to establish specialized units. By 1975, 21 such specialized units with 434 beds were in existence. They were concerned with providing a service for a population of alcoholics who were at that stage estimated to number 86,000 in England and Wales alone. Therefore to any casual observer it was very evident that the resources were totally inadequate to meet the needs of the population. This statistic alone encouraged some to seek for simpler, briefer, and less intensive modes of intervention.

Ten years ago, the model for an alcoholism treatment unit commonly involved an emphasis on an inpatient stay of 4 to 6 weeks or even longer. Patients were commonly selected for their motivation and capacity for intrapsychic and interpersonal exploration in a group setting. Group treatments, often borrowing from the influences of Alcoholics Anonymous, were the rule. Many clinics provided follow-up services, again in groups or on an individual outpatient basis. The unspoken assumption often appeared to be that the best treatment was to be found in intensive inpatient communities. Although many patients appeared to benefit enormously from these experiences, a number of evaluation studies began to question first the real need for prolonged stay and then the need for inpatient treatment at all. The emphasis in treatment began to move toward earlier intervention within frontline agencies, such as the primary health care team and social work (Department of Health and Social Security, 1978).

This change in emphasis was facilitated by the evidence of a series of evaluation studies. These compared different durations of inpatient stay; intensive as opposed to simpler inpatient programs; and inpatient contrasted with outpatient treatments (Clare, 1980; Edwards & Guthrie, 1967; Levinson & Sereny, 1969).

Wherever such evaluation studies have been properly conducted, the more intensive, prolonged, and expensive treatment has not been shown to have significant advantages over its simpler counterpart. Probably the most influential study for British clinicians, and a subsequent source of much therapeutic nihilism amongst psychiatrists, was that by Orford and Edwards (1977).

They randomly allocated 100 married male alcoholics to either advice or treatment. In the advice group, the patient was carefully assessed and, along with his wife, was given approximately half an hour's specific advice during which it was made clear that "responsibility for the attainment of abstinence lay in his own hands" rather than anything more which could be done by others. The treatment group, on the other hand, were provided with whatever specialist help seemed best suited to their needs and included all the specialist resources of a major psychi-

atric teaching hospital—counseling, marital therapy, Alcoholics Anonymous, citrated calcium carbimade, and admission if needed. A research social worker visited both groups weekly for a year and maintained a 94% contact rate. No statistical difference in outcome was observed between the treatment and control groups after one year.

This was an extremely carefully designed study but it is important to note that it concerned only married men from whom psychiatrically disturbed alcoholics had already been excluded. Some have questioned whether the follow-up itself did not become a powerful therapy for both groups, although the social worker took care to avoid moving outside the role of research interviewer. No attempt was made to match patient with therapy in any systematic way as suggested by Glaser (1980), although there was presumably an intuitive matching of patients' needs with available resources in the treated group. The particular point to note at this stage, however, is that the advice group was not offered "no treatment." They had a morning of devoted attention focused on their drinking and their problems, probably more intensive interest than many individuals receive in a lifetime, and then were given carefully chosen advice in a prestigious specialist center in the presence of their wives. What many wrongly interpret as no treatment was a very significant experience in the life of the patient. The authors themselves caution against nihilism, stating that the research had not proposed:

> an overthrow or negation of all established effort, the compassion which it witnesses, and the community support which it has won. What is proposed is only that, in terms of what should be seen as a process of evolution rather than a static treatment model, there is now need for further evolution. (Orford & Edwards, 1977, pp. 113–114)

It may well prove that the single advice session largely confirmed attitudes and decisions for patients already in the contemplation stage and gave them a simple action plan after the fashion already described by Prochaska & DiClemente (1982).

A further study of this kind is underway in Edinburgh. On this occasion both men and women have been included, as are single persons provided they have a key informant. Subjects are being randomly allocated to three treatment categories: intensive therapy; advice given in one session but tailored to the needs of that particular patient; and finally an extremely simple advice session in which, during the course of 3 minutes, the patient is advised to abstain and that the responsibility for action lies in his or her own hands. The follow-up process has tried to avoid establishing any therapeutic relationship between the follow-up social worker and the contact person, and follow-up has been maintained over a 2-year period. The results of this study are not yet available.

These evaluation studies have cast doubt on the justification for continuing treatment for alcohol-related problems by intensive and expensive therapies and on the belief that more treatment is necessarily better treatment. The case for continuing with elaborate residential treatment at a time of mounting health costs would have to be very strong indeed and yet programs with lengthy and intensive inpatient components continue. However, there are equally no grounds for closing the door of treatment agencies and investing our resources solely in education and political action, important as both are in reducing the long-term burden of alcohol-related harm. Treatment does not need an apologist but it is now free to rethink appropriate methods. The clinician can move toward simple treatment without feeling that second-best or substandard goods are on offer. Now that evaluation studies have legitimized simple intervention on clinical grounds, some of its additional merits can be examined.

ECONOMIES

Health services, particularly those based on item-of-service costs for treatment, are concerned about escalating health expenditure. The pressure to evaluate the effectiveness and value of these interventions is evident both in private insurance and state-funded services. Concern is particularly appropriate when there is little evidence that intensive treatments are significantly better than simpler measures.

As already indicated, the number of specialist, trained personnel is very small when compared with the task in hand. Grounds for deploying such resources in time-consuming treatment for the few would have to reside in strong evidence that such interventions can be amply justified. Such evidence is not forthcoming.

The equation between resources and needs becomes even more unbalanced in Third World countries where alcohol problems are giving increasing cause for concern. Early identification and simple intervention techniques have become a priority in the World Health Organization's (WHO) current research program towards health for all by the year 2000 (WHO, 1983b; and see Marcus Grant's contribution to this volume, Chapter 3).

Quite apart from the costs in health resources, earlier intervention should also minimize the social and economic cost to the individual drinker and his family by reducing the time involved in treatment. Bringing treatment nearer to home and the work place also minimizes the disruption in the family and work.

STIGMA

A sense of shame is common among individuals who have alcohol problems. There is corresponding reluctance to admit the problem, both to oneself and particularly to those around. This feeling of shame is equally evident in very different settings. A study conducted in communities in countries as disparate as Zambia, Mexico, and Scotland all revealed that shame was a prominent reason for being reluctant to admit to having a drinking problem (WHO, 1983a). This blow to self-esteem was particularly evident among women and prevented many of them from seeking help from agencies, particularly when that agency itself is labeled as offering treatment for alcoholics or problem drinkers.

There is also the stigma involved in feeling that one has somehow lost control of oneself and needs someone else to take charge. This giving up of self-control can seem very demeaning, particularly in cultures where independence is a highly prized virtue. With simple intervention, the client/patient is still very much in control and is simply given the tools with which to effect personal change.

One of the features of precontemplation (Prochaska & DiClemente, 1982) is that it is very difficult for the patient to contemplate going to treatment for help with problems because that involves admitting some significant aspect of life is out of control. Individuals have the need to believe that they are in control of their own destiny, therefore simple advice goes a long way to alleviating the problem of handing over control to others and also avoids the equally common pitfall of rendering the patient/client dependent on the therapist.

PROXIMITY

In most systems of care for alcoholics, there has been a gradation in the decision-making and treatment structure that involves a passage

TABLE 1.
Levels of Recognition and Intervention for the Problem Drinker

Individual
Level 1: Family, friends
Level 2: Workmates, employer, barman, social welfare worker
Level 3: Primary health care team, area social work team, probation officers, police, clergy, casualty department
Level 4: AA, (Al Anon), council on alcoholism, alcohol treatment unit

towards ever increasingly specialised services. Table 1 illustrates a common pattern of levels of intervention. There is ample evidence that the life of the excessive drinker is replete with incidents that draw attention to his or her problem at an early stage. The first hint that something is amiss is usually detected in the family and later incidents occur at work or bring the drinker into contact with a range of institutions, such as those outlined in the second and third layers of Table 1. If we take each level in turn, it is evident that appropriate intervention at any stage may turn a crisis into an opportunity for a positive change in life-style. At the first level in Table 1, the drinker or his family may be instrumental in effecting change. This is probably the basis of many spontaneous remissions and is also the kind of level at which the bibliotherapy described elsewhere by Miller and Taylor (1980) is taking effect.

At the second level, we find individuals who do not have a designated responsibility to care or a therapeutic role and yet may be extremely influential. The most promising interventions at this level are in Alcohol in Employment programs; a recognition of impaired work performance due to alcohol can lead to involvement in an alcohol counseling program. At the third level are professional care givers. They are in key positions and in the future will, it is hoped, prove the main purveyors of simple intervention to problem drinkers. Unfortunately there is already evidence that, as a group, such frontline workers are often profoundly pessimistic about their capacity to help. This is an issue that will be discussed later. The fourth level contains specialist alcohol counseling and treatment agencies. Where simple intervention is being promoted, we can hope that some of these staff will change their role to providing support, information, and consultation to the primary-level workers.

It is obviously preferable if intervention can be offered near to home. The patient or client is seen in a familiar setting, for instance at the Health Center, which is nonstigmatizing and where the family doctor and nurse or other primary worker may already know a lot about his or her background.

Many treatment centers for problem drinkers comment on a very high failed first-attendance rate, which is sometimes as great as 40%, and also on the high dropout rate that follows first contact. If simple intervention can be offered nearer to home and without undue delay, it is much more likely that patients will attend. Where counseling services have been recently made available in Health Centers in the Lothian area, the attendance rates for first appointments improved to over 80%. Apart from the issue of stigma described above, it is also physically easier to come to a nearby facility, particularly for those who have problems of looking after young children or difficulties in getting away from work.

There is also a ripple effect concerning the skills that are being learned. The primary level worker (and perhaps the client too) will acquire and gain confidence in the necessary coping skills and this fosters the development of a repertoire of skills, rather than perpetuating a dependency on the specialist to whom they must make referrals. There are many merits in avoiding any process that appears to deprive the primary-level worker of skills, and this has been one of the most unfortunate and undesirable consequences of the growth of specialization.

ATTITUDES

Ideally, simple interventions should be at least as effective in the hands of a primary level worker as they are when offered by specialists. There is evidence that many primary level workers, for instance, general practitioners and social workers, feel profoundly pessimistic about their capacity to help problem drinkers (Ritson & De Roumanie, 1984; Shaw, Cartwright, Spratley, & Harwin, 1978). Part of this pessimism resides in a feeling that little can be done to help the problem drinker and that, in any case, they themselves lack the skills to offer any effective help. One hoped-for outcome from research into simple intervention is the development of simple tools that can be used with confidence in the frontline. One interesting and encouraging development in this respect is the DRAMS project described elsewhere in this book (Heather, Chapter 17). This project involved giving general practitioners a pack containing simple instructions about recognizing alcohol problems, giving patients written material about modifying drinking habits, and then structuring subsequent monitoring of progress by the use of diaries and general practitioner follow-up. This combination of straightforward advice and self-help would appear to be a promising way of combatting therapeutic nihilism and at the same time reaching a large number of problem drinkers.

EVALUATION OF SIMPLE INTERVENTION

Although evaluation studies of the past 20 years described earlier have certainly prompted and encouraged the search for simpler interventions, there are very few studies that give any substantial answer to the question, Do simple interventions work?

A few examples that do exist derive exclusively from industrialized countries. WHO is currently engaged in a study that will explore the

feasibility and value of early identification and simple intervention in some Third World countries, where resources are even more precious.

Many of the diseases that cause most concern in the Western world, such as lung cancer, hypertension, and liver cirrhosis, are thought to be a consequence of chosen life-style behaviors, such as cigarette smoking, overeating, lack of exercise, and excessive drinking. This evidence has fostered an interest in education and advice aimed at health promotion as an alternative to costly medical care. In response to this acknowledgment, there are now a number of studies that have examined the impact on unhealthy behaviour of simple advice, usually given by a physician. Research in Norway, Finland, and the United States provides evidence of the benefits of advice about healthy life-style given to individuals at risk to coronary heart disease (McAlister, Puska, Salonen, Tuomilehlo, & Koohela, 1982). Until recently a pall of therapeutic pessimism has hung over attempts to give simple advice to those who abuse addictive substances—as if their very addictive properties demanded subtle approaches and put the patient beyond reach of reasonable discussion!

This pessimism was countered by Russell, Wilson, Taylor & Baker (1979), who showed that it was possible to have a significant impact on cigarette smoking by simple advice. They randomly assigned smokers who attended their general practitioners to four categories: a nonintervention control group; a questionnaire only group; a simple advice to stop smoking group; an advice plus leaflet plus follow-up group. They found that the last group was significantly more successful in stopping smoking and sustaining this over one year. Although only 5% achieved this goal, the authors point out that if all the family doctors in the United Kingdom adopted this simple approach, the yield would exceed half a million ex-xmokers a year. This target could not be matched by increasing the present 50 or so special withdrawal clinics to 10,000.

As far as alcohol-related problems are concerned, Kristenson (1982), in Malmo, Sweden, reported the beneficial effects of advice given to men who had been identified as heavy drinkers as part of a general health screening project. Among those identified as having a raised Gamma-GT on two occasions 3 weeks apart, 76% were found to be either heavy or moderate drinkers. Heavy drinking was defined as consuming more than 40g of alcohol a day and moderate as 20g. to 40g of alcohol per day.

Those who were observed to have a raised Gamma-GT were randomly allocated to an intervention and a control group. Subjects in the control group were informed by letter that test results revealed they had an impaired liver, were advised to restrict their drinking, and invited to attend for further blood tests after 2 years. In contrast, subjects in the intervention group were given a detailed physical examination and interviewed about their drinking histories, symptoms of alcohol depen-

dence, and evidence of alcohol-related problems. This group was then offered appointments with the same physician every 3rd month and monthly contacts with the same nurse, who repeated the Gamma-GT assessments. Subjects were advised about moderating their drinking. Progress was monitored by regular feedback of Gamma-GT levels and general encouragement to attain normal drinking levels. Once these results had achieved an acceptable level, the frequency of clinical contact was reduced.

The subjects' progress was evaluated 2 and 4 years after the initial screening. The Gamma-GT values of both groups decreased significantly. There was, however, an important difference between the two groups in sick absenteeism, hospitalization, and mortality. In the intervention group, the mean annual sick days per individual increased from 24 to 29, whereas in the control group the corresponding rise was from 25 to 52. The control group had 1,644 hospitalized days whereas the intervention group had a total of 808 in the hospital over the 4-year period. If alcohol-related conditions were isolated from other causes of hospitalization, the difference was even more striking, with 482 days in the control group and 133 in the intervention group.

This study showed that simple intervention with regular feedback based on a biochemical marker could have significant effects on the drinking habits and physical health of the population. It should however be noted that this intervention did involve quite a lot of contact and the use of a skilled physician. It was again in a medical setting and a health orientation predominated.

In France, the National Health Ministry recommended the establishment of *Centres d'Hygiene Alimentaire* as part of a national program to prevent alcoholism (Chick, 1984). These clinics have directed their efforts primarily towards the nondependent, excessive drinker.

Staff members are instructed to do the following:

1. Give the drinker proof of his chronic alcohol misuse
2. Gain the drinker's confidence
3. Persuade him or her that a radical change in drinking habits is necessary
4. Show by feedback processes that the reduction or elimination of alcohol leads to an improvement in health

This process is accomplished by a series of outpatient visits to these centers, which provide a combination of clinical diagnosis, medical treatment, dietary counseling, health education, and family counseling. No randomized control study of these centers has been undertaken, but they seem to offer a promising and simple approach that does not call upon elaborate resources of counseling and psychotherapeutic skills.

A recent study in the Royal Infirmary in Edinburgh has attempted

to assess the effectiveness of brief intervention with problem drinkers identified in a general hospital. The presence of such problems was established by a trained nurse using a structured interview of 10 minutes duration covering drinking habits, recent and previous medical history, and social background. The mean corpuscular volume and gamma glutamyl transpeptidase were recorded in each case. The criteria for inclusion in the study were that the patient should not have received prior treatment for an alcohol problem and should have some degree of social stability to facilitate follow-up. The patient also had to give evidence of heavy drinking or alcohol problems from the categories shown in Table 2.

TABLE 2.
Criteria for Inclusion as a Problem Drinker

	Points
Consumption	
More than 12 units[a] in a day on 10 or more occasions in the last year	1
More than 50 units in typical week	1
More than 12 units in 24 hours in typical week	1
Alcohol related problems	
Current medical problem	
Present illness potentially alcohol related	1
Present illness definitely alcohol related	2
Weight problem due to alcohol	1
Medical problems in past 2 years	
Peptic ulcer aggravated by drinking	1
Liver disease due to alcohol	1
Accident due to drinking	1
Alcohol-related social problems in past 2 years	
anti-social behavior	1
problems at work (inc. absence)	1
domestic arguments	1
violence	1
family rupture—threatened or actual	1
financial	1
police	1
Dependence on alcohol in past 2 years	
Difficulty in reducing consumption	1
Restlessness without alcohol	1
Tremor (more than 1 day per week)	1
Morning relief drinking (more than 1 day per week)	1
Hallucinations	1
Withdrawal seizure	1

[a]1 unit = 1 oz of 40% (by volume) spirits, ½ pint of 3.6% (by volume) beer, 1 glass of wine etc. (i.e., approximate 8g ethanol).

The sample of identified patients was then randomly divided. No comment was made to control group subjects although all agreed to follow-up one year later. The intervention group received a further 30 to 60 minutes counseling from the nurse in the presence of the patient's spouse, where possible (although this was rarely the case). Finally, the patient was given a booklet containing advice about techniques for reducing drinking. After one year both groups were interviewed by a nurse who did not know the design of the original study. *Preliminary* findings showed that fewer of the intervention group had alcohol problems at the end of one year, 52% were categorized as definitely improved as opposed to 34% of the control group. These results suggest that simple intervention by an experienced nurse giving clear advice about drinking does have a positive effect on subsequent drinking problems during the course of the ensuing year (Chick, Lloyd, & Crombie, 1984).

These studies, although very far from providing conclusive evidence, do offer encouragement to those who are seeking to provide simple tools that can be given to frontline workers for everyday use in helping problem drinkers. The tools at present are rather blunt and require to be honed to greater precision by further research. Clinical psychology has an important task to perform in designing simple self-help techniques for achieving behavioral change. They need to be of proven reliability and capable of being given away for use by the client or by a primary-level worker who has no specialist training.

Questions

There are, however, some questions and doubts that must temper enthusiasm before the wholesale adoption of these simple techniques. If adopted in an unthinking way, they may become a prescription for low-cost or shoddy interventions and a means of hampering the development of resources for this client group. Obviously, they could make a very attractive recipe for any government keen to reduce expenditure on health services.

There is also the anxiety that simple intervention may not confront the issues of the precontemplation and contemplation stages. How, for instance, does simple advice accord with Prochaska's view (see Chapter 1, this volume) that the minimal requirements for effective psychotherapy are the ability to help clients become aware of their defenses against change? We are still in need of techniques for overcoming the understandable resistances to change within the client group.

The timing and time scale of simple advice is also poorly understood. The need to recognize the stages involved in decision making and

the process of change suggests that there are times when the client is ripe for advice and others when it would appear unwelcome and be rejected. Timing requires skill and sensitivity, and a blanket prescription of self-help manuals and words of advice may be just as wasteful as the overuse of psychodynamic approaches have been on other occasions. Simple interventions also need to have a sense of time as well as timing. Many alcohol-related problems wax and wane over years and resolve may require to be strengthened and relapses discussed. Very little is known about the longitudinal perspective of this approach to therapy, although it is acknowledged by Prochaska and DiClemente (1982) in their maintenance stage. Brief but repeated advice may prove preferable to a few prolonged assessment interviews.

Edwards (1982), in his book on helping alcoholics, says:

> The relationship between patient and therapist is fundamental both to what can be achieved in any one therapeutic session and to what changes can be achieved over time. (p. 198)

In these simple strategies, what has happened to the importance of the relationship?

Much work also requires to be done on the importance of the status of the advice giver. Most of the studies that have been described have been in health settings; there is a need to extend these to other settings and for a closer examination of the importance of the status and credibility of the therapist. There are, of course, other important issues concerning assessment and matching, both in terms of the client characteristics and the stage of change they have reached. Miller has ably reviewed these elsewhere in this book (see Chapter 8).

There is also resistance among professionals themselves. Pessimism and resistance of colleagues in primary-level agencies has already been acknowledged. This resistance can be considerably softened by providing them with clearly formulated techniques and instruments that enhance self-confidence in managing alcohol-related problems. Among specialists, there is also an understandable resistance to changing therapeutic techniques—skills that have been costly and hard to acquire.

In conclusion, it is evident that simple advice has many merits and is amply justified, but the details of timing, presentation, content, and follow-up need much more definition.

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IV

Maintenance

Preventing Relapse

20

Alcoholism Survival

The Prevention of Relapse

GLORIA K. LITMAN

INTRODUCTION

Although there is still a dearth of knowledge about the mechanisms of relapse in alcoholism, there is an even greater dearth of research into how individuals who have been treated for alcoholism survive—that is, do not resume heavy drinking. In our studies of relapse, we have been investigating not only the causes of relapse, but, equally important, looking at the ways patients have found to avoid relapse and maintain survival.

Our early model of survival hypothesized that there is an interaction among (a) situations perceived to be dangerous for the individual in that they may precipitate relapse; (b) the coping strategies available within the individual's repertoire to deal with these situations; (c) the perceived effectiveness of these coping behaviors; (d) the individual's self-perception and self-esteem and the degree of learned helplessness with which they view their situation. If individuals regard themselves as helpless victims of their feelings, their situation, or their personality,

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GLORIA K. LITMAN • Addiction Research Unit, Institute of Psychiatry, London SE5 8AF, England. The work reported in this chapter was funded in part by generous grants from the Medical Research Council, the Nuffield Foundation, the Scotch Whiskey Association and the Brewers' Society.

they will be less likely to take appropriate action to avoid relapse. On the other hand, if a person learns coping behaviors and strategies and perceives them to be effective, this may lead to positive changes in self-perception and self-esteem. Concurrent with these changes is feedback from the social environment. Therefore, the process of enhancing self-esteem is generated from external as well as internal sources.

THE ORIGINAL STUDY

Our original study developed formal questionnaires designed to elicit information on responses, attitudes, and strategies that characterize clients' attempts to avoid relapse. The questionnaires cover the following areas: (a) situations that were dangerous to the individual—the Relapse Precipitants Inventory (RPI); (b) the coping strategies the individual had used to avoid relapse—the Coping Behaviors Inventory (CBI); (c) how effective these coping strategies were perceived to be—the Effectiveness of Coping Behaviors Inventory (ECBI); and (d) how dependent on alcohol individuals saw themselves—the Dependence Inventory (DI). These questionnaires were given individually to outpatients at the Maudsley Hospital and Withington Hospital and to inpatients at the Bethlem Royal and Warlingham Park Hospitals. We also sent questionnaires to former patients who were definitely known to have been abstaining for 6 months or more. One hundred and twenty-six patients were included in the sample.

When we analyzed the results of these questionnaires (Litman, Eiser, Rawson, & Oppenheim, 1977), we found that the Relapse Precipitants Inventory could be summarized by four components, which accounted for 60% of the variance:

Factor 1. Unpleasant Affect (e.g., "When I feel depressed"; "When I feel tense")
Factor 2. External Events (e.g., "When I pass a pub or off-licence")
Factor 3. Social Anxiety (e.g., "When I have to meet people and feel afraid")
Factor 4. Lessened Cognitive Vigilance ("When I start thinking that one drink would do no harm")

The Coping Behaviors Inventory (CBI) could also be summarized by four factors, which accounted for approximately 48% of the variance:

Factor 1. Positive Thinking (e.g., "Stopping to examine my motives and eliminating the false ones").
Factor 2. Negative Thinking (e.g., "Thinking of the mess I've got myself in through drinking")

Factor 3. Distraction/Substitution (e.g., "Start doing something in the house")
Factor 4. Avoidance (e.g., "Keeping away from people who drink").

The Effectiveness of Coping Behaviors Inventory could be summarized by three components, accounting for approximately 47% of the variance.

Factor 1. Cognitive Control (which included both Positive and Negative Thinking
Factor 2. Avoidance (as in the CBI)
Factor 3. Distraction/Substitution (as in the CBI)

We looked at the association between relapse and coping behaviors and found that, for this sample, Unpleasant Affect seemed to be associated with Distraction/Substitution and Negative Thinking. Not surprisingly, these were perceived to be ineffective. There did not seem to be a coping style associated with External Events, and Distraction/Substitution was perceived as being particularly ineffective. Social Anxiety as a dangerous situation was found to be associated with Distraction/Substitution and Negative Thinking, both of which were perceived to be ineffective. However, contrary to the clinical view that situations should be confronted, Avoidance was perceived to be an effective coping behavior for both Social Anxiety and Lessened Cognitive Vigilance (Litman *et al.*, 1977).

When we compared relapsers and survivors in this sample (Litman, Eiser, Rawson, & Oppenheim, 1979) some interesting differences emerged. Relapsers' scores on the RPI were significantly higher than those of survivors, indicating that the more situations individuals perceived as being dangerous, the more likely they were to relapse. High scores on the Unpleasant Affect component of the RPI discriminated between relapsers and survivors, suggesting that those more prone to depression, anxiety, etc., are more likely to relapse. External Events also discriminated between the groups. The results indicated too that individuals who adopt a multiplicity of coping styles—a flexibility that enables them to cope with a variety of dangerous situations—are more likely to survive. The strongest discriminator between relapsers and survivors was the perception of Cognitive Control as an effective coping behavior.

A CONCEPTUAL FRAMEWORK

At this point, we had some information about the process of relapse, but more information on survival was required. Therefore, we

interviewed in depth 25 patients who had been successful either in abstaining or in controlling their drinking after treatment. These interviews were recorded and complete transcripts were examined for key concepts, recurring themes, and individual variations. From this examination of the transcripts, we developed what we called the "Conceptual Framework for Alcoholism Survival" (Litman, 1980, 1982). This conceptual framework served as the basis for hypothesizing stages of survival rather than survival as an all-or-none phenomenon. One hypothesis was that there may be a gradient of coping strategies that survivors develop over time after the treatment phase. Although Avoidance may be an effective coping strategy in the initial reentry phase after treatment, it is the development of more complex cognitive coping strategies that may determine whether individuals treated for alcoholism will relapse or survive.

We also developed hypotheses regarding what we have called the "Critical Perceptual Shift"—the point at which the individual is confronted with the choice of either a drastic change in drinking habits and life-style or self-destruction—and a concommitant shift in their perception of the therapist, who may be invested with magical qualities in the early stages of successful treatment. We hypothesized also that survival necessitated a shift in the locus of control (Rotter, 1966) from external attributions of success and failure to internal responsibility. Because our original model included external influences as well, we also hypothesized that a stable social support network would be more likely related to survival than to relapse.

THE PROSPECTIVE STUDY

The next stage in our work was to launch a prospective study to test some of the hypotheses formulated on the basis of our previous work with known groups of relapsers and survivors. We modified the inventories used in the earlier study on Dependence, Relapse Precipitants, Coping Behaviors, and the perceived Effectiveness of Coping Behaviors to include only those items that had the highest loadings on the original factors and that, on the basis of a discriminant function analysis, significantly discriminated between relapsers and survivors in our original study. We also developed and piloted further inventories designed to obtain a comprehensive drinking and relapse history, and to measure Critical Perceptual Shift, Self-Efficacy, Self-Esteem, Locus of Control, Perceived Social Supports, Commitment and Motivation, and the individual's Perception of the Therapist. The full questionnaire consisted of 326 items comprising 12 inventories.

Two hundred and fifty-six patients who presented for treatment for

alcoholism were selected for the prospective study. The sample included patients from Bexley Hospital, Warlingham Park Hospital, Queen Elizabeth Military Hospital, ACCEPT, St. Andrew's Hospital and the Maudsley and Bethlem Royal Hospitals. Although we tested all consecutive admissions to each of these centers, in our final sample we excluded any individuals who were diagnosed as brain damaged or psychotic by the centers, or who had histories of multiple drug abuse. We also eliminated from the sample any individuals who had no fixed abode and, because of confidentiality requirements, any individual who was discharged from the Army. Approximately one third of patients admitted for treatment to those centers over the one-year intake period of the study were excluded by one or more of these criteria.

The full 326-item questionnaire was administered to patients by members of the hospital staff at intake (or as soon as withdrawal from alcohol was complete). One hundred and ninety-eight patients or approximately 77% of the sample were located for follow-up and questionnaires were administered to these patients approximately 6 weeks after discharge and 6 to 15 months subsequently by members of the research team. All subjects were informed that they were participating in a research program and that the results would be kept confidential and would not appear on their clinical records.

Relapse Precipitants Inventory (RPI)

One of the factors involved in relapse is the fact that treated alcoholics return to a world that holds many dangers, both internal and external, that may precipitate the resumption of excessive drinking. The literature on relapse precipitation is not extensive. Hore (1971) asked 22 patients to keep a record of their daily anxiety, craving, and depression levels over a 6-month period and concluded that there was no relationship between mood state and subsequent relapse. However, Marlatt (1979), analyzing the responses of a group of 70 patients, found that 38% of his subjects reported negative affect prior to relapse, a finding that concurs with the results of our initial study. Hodgson and Rankin (1982) theorized that excessive drinking behavior could be conceptualized as a discriminant operant that may be modified by exposure to drinking cues. Their single case study (Hodgson & Rankin, 1976) reports modest success in using cue exposure to modify drinking behavior.

Analysis of the RPI

The items in the Relapse Precipitants Inventory are given in Table 1, along with the appropriate instructions (see Litman, Stapleton, Oppenheim, Peleg, & Jackson, 1983).

TABLE 1.
Relapse Precipitants Inventory

Instructions:
Here are some situations which some people have experienced as being dangerous to their staying off drink. Which of these may be dangerous for you? There are four boxes, "Very dangerous," "quite dangerous," "a little dangerous," "not at all." Please tick that box which comes closest to your feelings about those situations which may be dangerous to your staying off drink. There are no right or wrong answers or trick questions. We want to know how you feel.

1. When I pass a pub or off-licence (liquor store)
2. When I'm with other people who are drinking
3. When I feel no one really cares what happens to me
4. When I feel tense
5. When I have to meet people
6. When I start thinking that just one drink would cause no harm
7. When I feel depressed
8. When there are problems at work
9. When I feel I'm being punished unjustly
10. When I feel afraid
11. When I'm on holiday
12. When I feel happy with everything
13. When I have money to spend
14. When I remember the good times when I was drinking
15. When there are rows and arguments at home
16. When I'm full of resentments
17. When I feel irritable
18. When I'm at a party
19. When I start thinking I am not really hooked on alcohol
20. When I feel myself getting very angry
21. When there are special occasions like Christmas, birthdays, etc.
22. When I start feeling frustrated and fed up with life
23. When I feel tired
24. When I feel disappointed that other people are letting me down
25. When I have already taken some drink

When we analyzed the results of the RPI for our present sample at intake by means of principal components analysis using Varimax rotation, we found that the first three factors, which account for 55% of the variance, summarized the data adequately. These three components were the following: Factor 1, Unpleasant Mood States; Factor 2, External Events; Factor 3, Lessened Cognitive Vigliance. The items on the fourth factor in our previous study that referred to Social Anxiety now loaded in the first factor, thus relating to a more generalized anxiety or depression.

In order to compare the factor structure with our previous work, we

reanalyzed the previous data using only the 25 items that were included in the present Inventory. (The original RPI contained 41 items). We found that with the renalysis of these data, three factors emerged, accounting for 57% of the variance. The items on these factors were almost identical to those found in the present data. When we performed a Kaiser analysis to obtain a more objective measure of the similarity of the two factor structures, we found that the resultant interfactor coefficients for Factors 1, 2, and 3 were .98, .99 and .98, respectively, indicating a high degree of stability. Having established three stable factors, we then proceeded to look at the relationship between scores on these factors at intake and subsequent outcome 6 to 15 months later.

In our previous work, the definition of relapse was not an issue, because we categorized as relapsers those patients who had returned to hospital for further treatment for alcohol abuse. Because the present work is a prospective study, we were faced with the dilemma of what constitutes relapse and how survival is defined. Although we are concerned with the quality of posttreatment adjustment in other areas, for the purposes of this analysis we defined relapse and survival in terms of the amount of alcohol consumption, which seems reasonable in view of the fact that all the questions on the RPI were directed to "situations dangerous to staying off drink." Although drinking outcome was based on self-report, we obtained corroborative data from various sources. Abstinence was relatively simple to define. If the subjects maintained they had not been drinking at all since their discharge from the hospital and if there were no further evidence to suggest that the subjects were drinking during the 30 days preceding the final questionnaire, nor that the subject was drinking during the earlier follow-up period, they were put in the abstinence category.

Distinguishing between light or moderate drinking and heavy drinking was more difficult. As the Rand Report researchers (Armor, Polich, & Stambul, 1978) have noted, any cutoff point is essentially arbitrary. Schmidt (1976) proposes a 150 ml cutoff (approximately the daily equivalent of 50 oz of absolute ethanol) whereas Pequinot, Tuyno, and Berta (1978) and Lieber (1979) suggest that less than 5 oz but more than 2 oz may still imply substantial risk.

In view of the way the alcohol consumption questionnaire was set out, we categorized outcome into (a) Abstinence (as discussed) (77 subjects); (b) Light/Moderate Drinking, which we defined as less than the daily equivalent of 5 pints of beer, 1 half bottle of fortified wine, or, a half bottle of spirits. These amounts do not represent simple averaging over the follow-up period. If there were any evidence that subjects had exceeded these amounts during the follow-up period, they were excluded from this category (31 subjects); (c) Heavy Drinking, the daily

equivalent of 5 or more pints of beer, one and a half or more bottles of wine, one or more bottles of fortified wine, one half bottle or more of spirits, or a combination thereof (90 subjects).

We accept that these categories are arbitrary and, with the state of the art in alcoholism as it now stands, would be equally open to criticism by some who feel that our definition of light–moderate drinking is too generous and by others who feel our definition of heavy drinking to be too stringent.

A score was derived for each subject on each of the three factors and also on the number of situations seen as dangerous. When we compared the two extreme groups, we found that there were significant differences between relapsers and survivors on the total number of relapse precipitants, the scores on Factor 1 (Unpleasant Mood States), and the scores on Factor 2 (External Events and Euphoric States), with relapsers scoring significantly higher. Again we had replicated the findings of the previous study (Litman *et al.*, 1979), in which we found that the total number of relapse precipitants and the mean factor scores on Unpleasant Mood States and External Events and Euphoria significantly discriminated between known groups of relapsers and survivors. There were no significant differences between relapsers and survivors with respect to the factor scores on Lessened Cognitive Vigilance.

The means for the light drinking group on the four scores were 11.20, 0.88, 0.95, 1.10. Only on Lessened Cognitive Vigilance did the mean score for the light drinkers not fall between the mean scores for abstinent and heavy drinking groups. The Linear F Statistic for the three groups was significant for the first three scores.

Gender Differences in Alcoholic Relapse

In our previous work there was some suggestion that women were more likely to perceive mood states as being more dangerous to staying off drink, whereas men were more likely to view external events and euphoric states as the more dangerous relapse precipitants. We compared the men and women in the present sample in terms of the total number of relapse precipitants and their mean factor scores on the components.

The results indicated that there were significant differences between men and women in their factor scores on Factor 2, External Events and Euphoria, with men having slightly higher means. Although the difference between women and men on Factor 1, Unpleasant Mood States, did not reach the accepted level of statistical significance, there seems to be a tendency for women to score higher on this factor. There

were no differences between men and women in their total scores on the Inventory, nor in the total number of situations perceived as dangerous.

Coping Behaviors Inventory (CBI)

According to Lazarus (1966), coping can be defined as some form of action to reduce a danger, correct a harm, or achieve a gratification (see also Lazarus, Averill, & Opton, 1974). Coping can thus be seen as a form of response to a given situation, whether this situation be internally generated as in mood states, or externally imposed. Because coping has been regarded as a highly individualized, intrapsychic defence against threat, there has been little scientific scrutiny of this area until recently. Social scientists have concentrated heavily on external stimuli that precipitate distress, without regard for the individual's capacity to ameliorate or avoid this distress.

In the field of alcoholism too, it has often been assumed that patients succeeded in avoiding relapse either because the external constraints of their environment were conducive to sobriety or because they possessed sufficient "willpower" to avoid relapsing. More recently, Sobell and Sobell (1973) included as part of their broad-spectrum treatment program sessions involving the identification of discriminative stimuli for drinking and the generation of more appropriate alternative behaviors. Marlatt's (1979) categorization of relapse situations provided the basis for skill training in relapse prevention (Chaney, O'Leary, & Marlatt, 1978). Sanchez-Craig and Walker (1982) attempted to teach coping skills to chronic alcoholics in a halfway house setting, but concluded that their subjects were unable to recall strategies one month after the end of the program, and attributed this failure of retention to the lack of perceived relevance and applicability of the strategy. Much of the work cited here has either been concentrated on situation-specific behaviors or laboratory-derived alternatives. To our knowledge, little attention has been paid to the alcoholic's own ability to devise strategies to cope with situations that triggered heavy drinking in the past.

Analysis of the CBI

We analyzed the results of the CBI for our present sample by means of a principal components analysis with Varimax rotation. The first four factors, which account for 54% of the variance, were thought to adequately summarize this Inventory. These four components were, Factor 1, Positive Thinking; Factor 2, Negative Thinking; Factor 3, Avoidance/Distraction; Factor 4, Seeking Social Supports. Table 2 shows the

TABLE 2.
Coping Behaviors Inventory

Instructions:
If there are times when you want to start drinking again, how do you try to stop yourself? Here are a list of ways some people have tried to stop themselves. Which of these ways have you tried? There are four boxes "Usually," "often," "sometimes," and "never." Please tick that box which comes closest to how often you have used these ways to try to stop yourself from starting to drink again. There are no right or wrong answers or trick questions. We want to know what you have tried.

1. Thinking about how much better off I am without drink
2. Telephoning a friend
3. Keeping in the company of non drinkers
4. Thinking positively
5. Thinking of the mess I've got myself into through drinking
6. Stopping to examine my motives and eliminating the false ones
7. Thinking of the promises I've made to others
8. Staying indoors—hiding
9. Pausing and really thinking the whole alcoholic cycle through
10. Leaving my money at home
11. Recognising that life is no bed of roses but drink is not the answer
12. Going to an AA meeting
13. Knowing that by not drinking I can show my face again without fear of what others will think
14. Cheering myself up by buying myself something special instead
15. Facing up to my bad feelings instead of trying to drown them
16. Working harder
17. Realizing that it's just not worth it
18. Waiting it out until everything is shut
19. Remembering how I've let my friends and family down in the past
20. Keeping away from people who drink
21. Going for a walk
22. Looking on the bright side and trying to stop making excuses for myself
23. Realizing it's affecting my health
24. Start doing something in the house
25. Considering the effect it will have on my family
26. Reminding myself of the good life I can have without drink
27. Getting in touch with old drinking friends who are better now
28. Making up my mind that I'm going to stop playing games with myself
29. Eating a good meal
30. Avoiding places where I drank
31. Thinking about all the people who have helped me
32. Saying I am well and wish to stay so
33. Going to sleep
34. Remembering how it has affected my family
35. Forcing myself to go to work
36. Trying to face life instead of avoiding it

items in the CBI, along with the appropriate instructions (see Litman, Stapleton, Oppenheim, & Peleg, 1983).

In order to compare the factor structure of this Inventory with our previous work, we reanalyzed the previous data including only those 36 items that were included in the present Inventory. In the reanalysis of these data, the first four factors accounted for 49% of the variance, rather than the previous 40%. When we compared the results, we found that the factors for the present study and the previous study were very similar. The Kaiser analysis interfactor coefficients for Factors 1, 2, 3, and 4 were .91, .81, .65, and .75. We found no significant relationship between the scores on the CBI at intake and subsequent relapse and survival 6 to 15 months later.

Effectiveness of Coping Behaviors Inventory (ECBI)

The items in the ECBI are the same as in the CBI. Whereas the instructions in the CBI ask respondents to tick how often certain types of coping behaviors are used, the ECBI asks them to tick how well these coping behaviors work for them.

Analysis of the ECBI

When we analyzed the ECBI for our present sample using principal components analysis with Varimax rotation, we found that four factors emerged, accounting for 59% of the variance: Factor 1, Positive Thinking; Factor 2, Negative Thinking; Factor 3, Avoidance/Distraction; Factor 4, Seeking Social Supports. The factor structure was almost identical to that of the CBI, indicating that the factor structure remains stable even when the instructions change (see Litman, Stapleton, Oppenheim, Peleg, & Jackson, 1984).

When we compared relapsers and survivors on the ECBI, we found that there were significant differences on their total score, on their scores on Factor 1 (Positive Thinking), and Factor 3 (Avoidance). In other words, at intake, individuals who 6 to 15 months later were abstaining from alcohol were more likely to perceive themselves as having more effective coping behaviors and to perceive Positive Thinking and Avoidance as effective coping behaviors than individuals who were later to relapse.

When we examined the differences between relapsers and abstainers with regard to the relationship among Relapse Precipitants, Coping Behaviors, and the perceived Effectiveness of Coping Behaviors, we found small, but statistically significant, differences between the two groups. For the group that was found to be abstaining, there was a

negative relationship between their scores on the RPI components and their perception of the Effectiveness of Coping Behaviors. Because we have already ascertained that abstainers have lower scores on the total number of relapse precipitants, this finding seems to mean that the more effective abstainers perceive their coping behaviors to be, the fewer dangerous situations they perceive. The only exception to this is Avoidance as an effective coping behavior, which is positively related to the total number of dangerous situations and to internal mood states.

When we look at the heavy drinking outcome group, there seems to be a positive relationship between Relapse Precipitants and Coping Behaviors. However, they do not perceive any significant relationship, either positive or negative, between the situations they perceive as dangerous and the effectiveness of their coping behaviors.

Although we found no differences between relapsers and survivors on their scores on the CBI at intake, we also found that, when we look at crude change scores between intake and 6 weeks after discharge, survivors tend to increase their use of Positive Thinking as a coping behavior ($p < 0.05$). We found also that survivors tend to decrease their use of Avoidance as a coping behavior, whereas relapsers tend to increase their use of Avoidance ($p < 0.0001$).

SUMMARY AND CONCLUSIONS

Our model of relapse assumes complex stage-by-stage interactions between relapse precipitants, coping behaviors, their perceived effectiveness, and intraindividual characteristics. However, although we have not yet looked at the full complexities of our data, there are trends emerging that may begin to shed some light on some of the mechanisms underlying alcoholism relapse and survival.

The findings reported in this chapter suggest that even at the time of admission to a hospital, there are differences between individuals who will relapse 6 to 15 months after hospital treatment and those who will survive in terms of the situations they perceive to be dangerous and the perceived effectiveness of their coping behaviors. Those who relapse subsequent to treatment see more situations as dangerous to their staying off drink and are particularly vulnerable to their own unpleasant affective states and to external events. They do not perceive their coping behaviors to be effective and, in fact, do not see any relationship between the situations they perceive to be dangerous and the effectiveness of their own ability to deal with these situations.

On the other hand, those individuals who survive initially perceive both Positive Thinking and Avoidance as effective coping behaviors and

perceive fewer situations as being dangerous to their staying off drink. As they continue to abstain, they tend to decrease their use of Avoidance and increase their Positive Thinking as effective coping behaviors. The more they experience their coping behaviors as effective, the less they perceive situations as being dangerous.

These results argue against blanket treatment programs for alcoholic patients and suggest that more attention needs to be paid clinically to the particular resources and vulnerabilities of individual patients (cf. Miller, Chapter 8, this volume). Although the RPI, the CBI, and the ECBI have not yet been developed as precision clinical instruments, they may be of some value in directing attention to those patients who may be particularly vulnerable and who should be monitored more closely.

Patients who perceive their affective states as making them particularly vulnerable to relapse could be taught more effective coping behaviors, with an emphasis on positive cognitive styles, and the work of Beck (1976) details procedures as to how this can be carried out. On the other hand, patients who perceive external events as particularly dangerous can be taught Avoidance as an effective short-term coping strategy, and then more positive confrontation techniques, such as cue exposure Hodgson & Rankin, 1982).

Although we have demonstrated that there is a direct relationship between the perception of efficacy of coping behaviors and subsequent outcome, we have not demonstrated the direction of causality. It may be that the survivors in our study accurately perceived the efficacy of the coping behaviors that work for them, based on past experience. It may equally be that it is their belief in the efficacy of these behaviors that leads to a positive outcome. Until this is tested in controlled clinical trials, it seems reasonable to suggest that in setting up clinical programs to teach effective coping behaviors, not only should reinforcement of these behaviors be built into the program, but patients should be made consciously and consistently aware of the efficacy of what they are doing. Our study begins to suggest how perceptions and beliefs may be utilized along with behavioral methods to effect survival rather than relapse.

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21

A Relapse Prevention Model for Treatment of Alcoholics

HELEN M. ANNIS

One of the few areas of consensus in the alcoholism treatment field involves the recognition that alcoholism is a chronic condition with a high risk of relapse. Treatment outcome studies have reported rates of 80% or more by 6 months posttreatment discharge (Armor, Polich, & Stambul, 1978; Gottheil, Thornton, Skolada, & Alterman, 1979), and drinking outcomes of individual clients have been found to be highly unstable over time (Annis & Ogborne, 1983; Finney, Moos, & Newborn, 1980, Litman, Eiser, & Taylor, 1979). It is not surprising, therefore, that, increasingly, relapse is being recognized as an important phenomenon for study.

Although follow-up results have typically been poor, alcoholism treatment programs have been, on the whole, highly successful at initiating behavior change in their clients. Indeed, reports of alcoholics in the community suggest that many alcoholics have little difficulty initiating periods of abstinence on their own. The problem in alcoholism, as in other addiction behaviors, is one of maintaining change over time. In the wake of disappointing long-term remission rates following treatment, there has been a tendency to assume that what is needed is more intensive programming or the development of more comprehensive

HELEN M. ANNIS • Addiction Research Foundation and University of Toronto, Toronto, Ontario, Canada. The views expressed in this Chapter are those of the author and do not necessarily reflect those of the Addiction Research Foundation.

multimodal treatment packages. This solution to reducing relapse rates is likely to be seriously flawed unless it is recognized that the additional treatment components must be designed specifically to enhance the maintenance of behavior change.

THE NEED FOR A THEORETICAL FRAMEWORK

The magnitude of the observed relapse phenomenon among alcoholics calls for the design of intervention strategies that address directly the problem of the durability of treatment effects. What theoretical framework can be drawn on to assist in the development of intervention strategies designed to produce greater maintenance of behavior change?

A major tenet of social-learning approaches, and self-efficacy theory (Bandura, 1977, 1978, 1981) specifically, is that the most powerful procedures for inducing behavior change may not be the most effective techniques for producing generalization and maintenance of treatment effects. No treatment-outcome study testing this proposition has appeared to date in the alcoholism field, although a controlled trial of relapse prevention strategies derived from self-efficacy theory is currently underway (Annis, Davis, & Levinson, 1981). In the remainder of this chapter, it will be argued that Bandura's theory of self-efficacy provides both (a) a testable framework for conceptualizing the phenomenon of alcoholic relapse, and (b) a basis for the design of relapse prevention strategies that may have greater potential for the maintenance of change.

SELF-EFFICACY THEORY

According to self-efficacy theory, treatment interventions are effective to the extent that they increase the client's expectations of personal efficacy. An efficacy expectation is defined as a judgment that one has the ability to execute a certain behavior pattern. (This is distinguished from an outcome expectation, which involves a judgment of the likely consequences such a behavior will produce.) Efficacy expectations are hypothesized to play a major role not only in the initiation, but also in the generalization and maintenance of coping behavior. The critical prediction of the theory is that the strength of a client's efficacy expectations will determine the nature of coping behavior and how long it will be maintained in the face of obstacles and adverse experiences.

SELF-EFFICACY THEORY AND ANALYSIS OF ALCOHOLIC RELAPSE

Wilson (1978a,b, 1979, 1980) has provided an excellent analysis of how self-efficacy theory may be useful in explaining the maintenance of alcoholism treatment effects and the alcoholic relapse process. Most traditional alcoholism treatment programs, including that of Alcoholics Anonymous, inculcate the belief that the alcoholic has an irreversible disease that renders him or her uniquely vulnerable to the addiction effects of alcohol, such that lifelong abstinence is essential. Because the alcoholic is qualitatively different from nonalcoholics, the alcoholic will never be able to exercise voluntary control over consumption once drinking has been initiated. In terms of self-efficacy theory, such a therapeutic philosophy can vitally affect relapse by deliberately minimizing the alcoholic's efficacy expectations about his or her ability to cope with alochol if any drinks were to be taken. Self-efficacy theory would predict that avoidance of drinking (abstinence), even for a period of years, would not develop a sense of self-efficacy about coping with drinking. Given low-efficacy expectations, coping behavior would be easily extinguished in the face of difficult experiences encountered in remaining sober in the natural environment. In addition, outcome expectations emphasizing the certainty of a return to uncontrolled drinking after a single drink would tend to function as a self-fulfilling prophecy, drastically increasing the severity of any relapse episode.

A related factor that would be expected to increase the severity of a relapse episode is that of "catastrophizing" (cf. Bandura, 1978; Ellis, 1970). Individuals with low-efficacy expectations, or acute self-doubts about their ability to handle drinking, would be expected to "catastrophize" the consequences and feel that all will be lost following a single failure experience. Rarely do traditional alcoholism treatment programs systematically teach the alcoholic self-regulatory and social skills to cope with the consequences typically associated with relapse. Cognitive preparation for "slips" (from either an abstinence or a controlled-drinking goal), and instructions in appropriate coping strategies would be expected to minimize the effects of potential relapse episodes.

In summary, self-efficacy theory would appear to have important implications for the analysis of the phenomenon of alcoholic relapse. Extrapolating from self-efficacy theory to the area of alcoholism, we would predict that durable treatment effects (i.e., effects that will generalize across time and settings) would be a function of the development of strong efficacy expectations with respect to coping with alcohol-related situations in the natural environment. Because the majority of alcoholic clients engage in sporadic posttreatment drinking, it would appear

to be critical that clients develop a sense of personal capability in dealing with drinking incidents. Self-efficacy theory would suggest that it is not the behavior *per se* of ingesting alcohol that is responsible for a full-blown relapse in the posttreatment period; rather it is the meaning the act of drinking has for the client, the coping strategies the client has available, and the persistence with which the client engages in coping behavior, which in turn is dependent on the presence of strong efficacy expectations.

TREATMENT IMPLICATIONS OF SELF-EFFICACY THEORY

Empirical testing of self-efficacy theory across different types of behavioral dysfunctions, including alcoholism, is very much in its infancy. Some promising results have begun to appear in the literature on the predictive power of self-efficacy ratings in relation to posttreatment smoking behavior (Condiotte & Lichtenstein, 1981; Prochaska, Crimi, Lapsanski, Martel, & Reid, 1982) and drinking behavior (Condra, 1982; Rist & Watzl, 1983; Stiemerling, 1983). However, the use of self-efficacy theory to design systematically a program of treatment elements specifically directed at the maintenance of change has been largely restricted to the work of Bandura and his colleagues in relation to snake phobia and more recently agoraphobia (Bandura, Adams, Hardy, & Howells, 1980; Hardy, 1976).

What principles may be derived from self-efficacy theory to design a relapse prevention program for alcoholics? What treatment strategies that have been employed with other behavioral dysfunctions have shown promise in the maintenance of change over time? It is proposed that empirical work to date from social-learning laboratory studies and clinical trials of self-efficacy theory support the extrapolation of the following principles for the development of a relapse treatment model:

1. A client's judgment of perceived self-efficacy will be the best predictor of future drinking behavior in high-risk situations for relapse. For good predictive accuracy, self-efficacy judgments on the part of the client should be made in relation to highly specific drinking situations (see the Situational Confidence Questionnaire, following).

2. Although cognitive mechanisms mediate behavior, the most powerful methods of changing drinking behavior will be performance based. Therefore, treatment should focus on having the client engage in performance assignments with regard to specific high-risk situations for alcoholic relapse (see the Inventory of Drinking Situations, following). (For examples of the demonstrated superiority of performance tasks with phobic behaviors, see Bandura, Blanchard, & Ritter, 1969, Bandura

et al., 1980; Blanchard, 1970; with obsessive-compulsive disorders see Rachman & Hodgson, 1979; and with sexual dysfunctions see Kockott, Dittmar, & Nusselt, 1975; and Mathews *et al.*, 1976.)

3. Performance tasks should be ordered in therapy from easier to more difficult (cf. Bandura, 1978). This can be accomplished through the use of client's ratings of perceived self-efficacy in relation to different risk situations for drinking.

4. In structuring performance tasks in relationship to dangerous drinking situations during treatment, it is critical that the therapist arrange conditions so that clients can perform successfully despite their incapacities (cf. Bandura, 1977). In addition to the use of graduated tasks this may be facilitated by the use of a variety of response-induction aids. These include the use of modeling and rehearsal of activities (Chaney, O'Leary, & Marlatt, 1978; Marlatt & Gordon, 1985), joint performance with the therapist or a responsible collateral (Bandura *et al.*, 1980), programmed relapse (Marlatt & Gordon, 1985), alternative coping strategies (Beck, 1976; Sanchez-Craig, 1975; Sobell & Sobell, 1973), and the use of protective aids such as anti-alcohol drugs (Peachey & Annis, 1983).

5. A two-phase treatment plan should be followed with Phase 1 concentrating on initiation strategies and Phase 2 on maintenance strategies. Powerful strategies for the initiation of a change in drinking behavior include the response-induction aids previously outlined. However, it is important that such external aids be gradually withdrawn in Phase 2 when the emphasis shifts to ensuring that the client's cognitions or self-inferences from mastery experiences are consistent with those known to facilitate strong, generalized behavior change (see following). This goal may also be facilitated in Phase 2 by having the client take a more active role in the designing of performance tasks leading to self-directed mastery experiences.

6. Unfortunately, successful experiences in controlling drinking behavior will not always produce the improvement in the client's perception of self-efficacy in relation to future drinking situations, which is necessary for treatment effects to be maintained over time. Therefore, it is necessary in therapy to monitor the client's cognitions in relation to successful performances. Although research on determinants of efficacy judgments is in its infancy, Bandura (1978) has commented on four factors that engender strong efficacy expectations in a client following a successful experience in a high-risk situation. These involve a perception on the part of the client that (a) the situation was challenging (i.e., at one time the situation would have been highly risky), (b) to succeed in mastering the situation, only a moderate degree of effort was needed, (c) little external aid was involved (i.e., the client himself or herself was responsible for the success), and (d) the success was part of an overall

pattern of improved performance. Additional factors derived from the literature on self-perception and attribution theory that have been found to enhance positive self-inferences include a perception on the part of the client that (e) an increase in personal control was demonstrated, and (f) the successful performance was highly relevant to problematic situations frequently encountered. These six cognitive factors influencing the formation of judgments of self-efficacy should be carefully monitored throughout treatment (see the Cognitive Appraisal Questionnaire, following).

7. In monitoring a client's cognitions, it may be found that self-defeating ideation is interfering with the enhancement of the client's self-efficacy following a successful experience in controlling drinking behavior. In such cases, direct cognitive manipulations (e.g., Meichenbaum's, 1977, self-instructional training; Beck, Rush, Shaw, & Emery's, 1979, recording of dysfunctional thoughts) may be necessary to foster gains in self-efficacy that will lead to greater maintenance of change in drinking behavior.

In summary, a number of principles derived from the literature on self-efficacy theory in relation to the successful maintenance of change in other behavior dysfunctions are outlined above. It is proposed that these principles provide guidelines for the development of a treatment model aimed at reducing the frequency and severity of alcoholic relapse (cf. Annis *et al.*, 1981).

A RELAPSE PREVENTION MODEL

The essence of the proposed relapse prevention model for alcoholics, derived from Bandura's theory of self-efficacy, involves a highly individualized microanalysis of drinking behavior within what are, for that client, high-risk situations for alcoholic relapse. The model is presented in Figure 1. Because it has been repeatedly demonstrated that global measures in personality or cognitive functioning do not have the same predictive power for particular behaviors as do situation-specific person measures (e.g., Endler, 1975), self-efficacy judgments by the client must be taken with respect to highly specific drinking situations. Similarly, cognitive appraisals of past successes and failures must be made in relation to these same specific drinking situations. What is needed in treatment, therefore, is a microanalysis of each high-risk drinking situation for a client in terms of the client's cognitive appraisal of that situation, his or her resulting expectation of coping behavior in that situation, which, in turn, will be a strong predictor of the client's actual future drinking behavior in that situation.

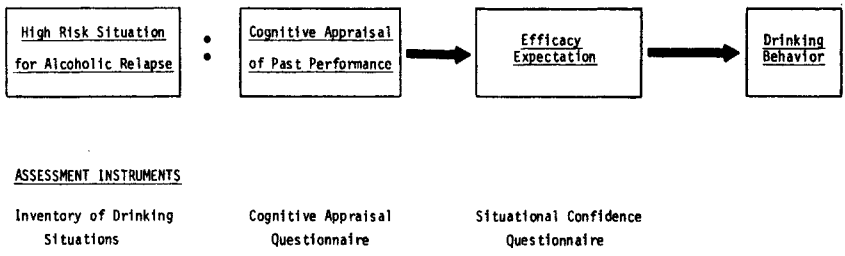

FIGURE 1. Microanalysis of drinking behavior in a high-risk situation.

It should be noted that assessment and treatment planning are highly interrelated in this model. Assessment of the three central elements in the model (risk situations for relapse, cognitions associated with past performance, and efficacy expectations) form the basis for designing and ordering homework assignments or performance tasks to be undertaken by the client in treatment. Because appropriate instrumentation for this purpose has been largely lacking in the alcoholism literature, the present author designed three behavioral assessment instruments to assess the central elements of the model. The development of each of these instruments and their use in implementing relapse prevention strategies with alcoholic clients is described in the following.

INVENTORY OF DRINKING SITUATIONS (IDS)

DESCRIPTION AND DEVELOPMENT

The Inventory of Drinking Situations, IDS, (Annis, 1982a) is a 100-item questionnaire designed to assess situations in which a client drank heavily over the past year (see Appendix A). Suggestions for item content were taken from a number of sources, including Litman's Dangerousness Questionnaire (Litman, Eiser, Rawson, & Oppenheim, 1979), Chaney's Situational Competency and Situational Difficulty Tests (Chaney *et al.*, 1978), Marlatt's Drinking Profile (Marlatt, 1976), Wilkinson's Self-Efficacy Inventory (Wilkinson & Martin, 1979), Deardorff's Situations for Drinking Questionnaire (Deardorff, Melges, Hout, & Savage, 1975) and discussions with clinicians, former alcoholics, and alcoholic clients. A draft of the resulting questionnaire was sent to five clinicians who had extensive experience working with alcoholics to solicit comments on item clarity and item coverage of the universe of common alcoholic relapse situations. Similar feedback was also solicited in a

pilot testing of the questionnaire on alcoholics admitted to an inpatient employee assistance program.

The final 100 items of the questionnaire are designed to assess eight categories of alcoholic relapse divided into two major classes: (a) Personal States, in which drinking involves a response to an event that is primarily psychological or physical in nature; and (b) Situations Involving Other People, in which a significant influence of another individual is involved. Personal States are further subdivided into five categories: Negative Emotional States (20 items); Negative Physical States (10 items); Positive Emotional States (10 items); Testing Personal Control (10 items); and Urges and Temptations (10 items). Situations Involving Other People are subdivided into three categories: Interpersonal Conflict (20 items); Social Pressure to Drink (10 items); and Positive Emotional States (10 items). This classification system is based on the work of Marlatt and his associates, in which chronic male alcoholics were interviewed concerning the circumstances surrounding their first relapse episode following discharge from two abstinence-oriented inpatient programs; content analysis of the responses lead to the derivation of the eight-category classification system (Marlatt, 1978, 1979a,b; Marlatt & Gordon, 1980).

In order to test for the reliability with which the 100 items of the Inventory of Drinking Situations could be placed in categories, three raters were instructed in the classification system and asked to sort the items into the eight categories. High reliability of item placement was obtained (interrater reliability of 92% to 99%). Further psychometric evaluation of the questionnaire is ongoing, and normative data are being collected.

Scoring and Plotting of Client Profile

The client is asked to indicate on the questionnaire the frequency with which he or she drank heavily over the past year in each of 100 situations. Responses are scored: 1 = never, 2 = rarely, 3 = frequently, 4 = almost always (see Appendix A). Eight subscores are calculated, one for each category, by a simple addition of scores obtained for each question within the category.

A client profile is plotted showing the client's areas of greatest risk for drinking (see Figure 2). The length of a bar graph for each category, plotted as a Problem Index varying from 0 to 100, indicates the magnitude of the problem experienced over the past year across situations in that category. The Problem Index for each category is calculated as follows:

$$\text{Problem Index} = \frac{\text{Category Score} - \text{No. of Items in Category}}{\text{Maximum Possible Score} - \text{No. of Items in Category}} \times 100$$

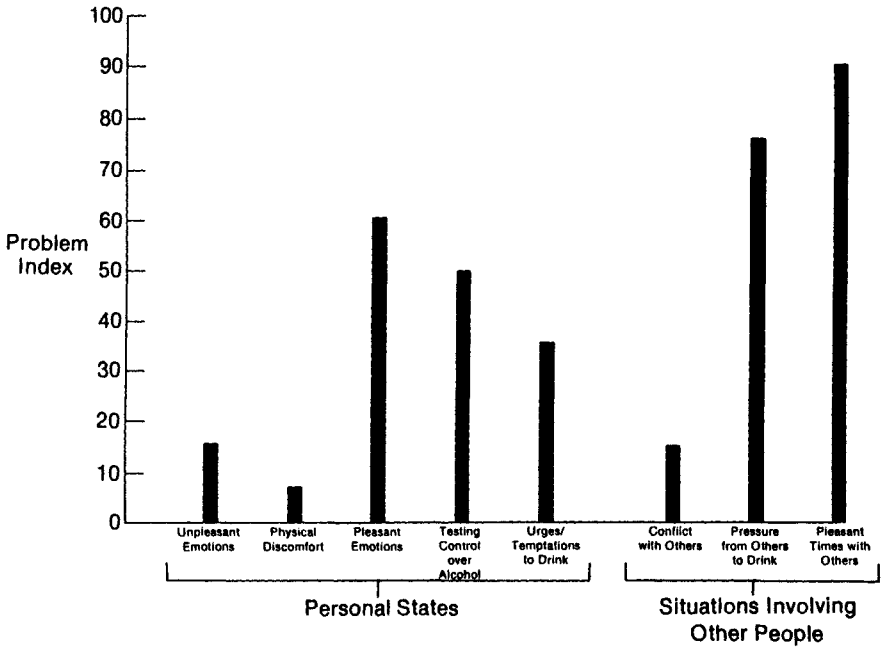

FIGURE 2. Client profile.

APPLICATION OF TREATMENT

At the inception of treatment, clients are asked by the therapist to complete the Inventory of Drinking Situations. Based on the responses, a profile is plotted showing the client's areas of high-risk situations for drinking. This profile forms the basis for a discussion with the client of the importance of antecedent events in understanding and modifying his or her drinking behavior. Further specification and clarification then takes place between therapist and client of those particular antecedents (personal states and situations involving other people) that will need to be worked on in treatment. The strategy of beginning with easier situations in terms of homework assignments, and progressing to more difficult tasks is explained, and the patient's involvement in the treatment plan is solicited.

SITUATIONAL CONFIDENCE QUESTIONNAIRE (SCQ)

DESCRIPTION AND DEVELOPMENT

The Situational Confidence Questionnaire (SCQ) (Annis, 1982b) is a 100-item questionnaire designed to assess Bandura's concept of self-

efficacy in relation to a client's perceived ability to cope effectively with alcohol. The 100 items parallel the 100 drinking situations employed in the Inventory of Drinking Situations. (For a description of the development of these situations, see IDS preceding.) As with the IDS, the eight-category classification system derived from the work of Marlatt and his associates is employed to categorize high-risk drinking areas.

Scoring

Clients are asked to imagine themselves in each of the 100 situations and indicate on the scale provided how confident they are that they will be able to resist the urge to drink heavily in that situation. Scale responses are, 0 = not at all confident, 20 = 20% confident, 40 = 40% confident, 60 = 60% confident, 80 = 80% confident, and 100 = 100% or very confident. Following Bandura's framework, three self-efficacy scores may be calculated for each of the eight categories. These are (a) level/magnitude of expectancies, calculated as the proportion of items given a confidence rating of 60 or above by the client; (b) strength of expectancies, calculated as the sum of confidence ratings across items, and (c) generality of expectancies, calculated as the correlation of strength scores across categories.

Application in Treatment

Clients complete the total questionnaire at the beginning of treatment. The strength-of-expectancy stores provide the basis whereby therapist and client develop the broad outline of a hierarchy of drinking situations in which the client feels increasingly less confidence to cope effectively (nonproblematically) with alcohol. To help ensure a series of graded mastery experiences over the course of treatment, initial tasks or homework assignments are designed around situations with moderately high strength or confidence ratings; as the client begins to cope effectively with alcohol in these situations, progression is made to drinking situations with lower strength or confidence ratings until these, too, are mastered. Throughout treatment, clients are periodically reassessed on items of the SCQ relevant to their homework assignments. This is done to check whether experiences in coping effectively with alcohol are resulting in strong efficacy expectations. If it is found that self-efficacy is not being strengthened despite successful performances on homework tasks, the client's cognitions in relation to those experiences must be explored (see following).

COGNITIVE APPRAISAL QUESTIONNAIRE

Description and Development

The Cognitive Appraisal Questionnaire (Annis, 1982c) is a structured interview designed to explore, in depth, cognitions associated with a past successful experience in controlling drinking behavior in a particular drinking situation. The operation of six cognitive factors hypothesized to influence the formation of judgments of self-efficacy is assessed. Questions explore whether or not the client perceived that (a) the situation was challenging, (b) only a moderate degree of effort was needed, (c) little external aid was involved, (d) the success was part of an overall pattern of improved performance, (e) an increase in personal control was demonstrated, and (f) the success was highly relevant to problematic drinking situations frequently encountered.

Application in Treatment

Because success experiences do not automatically raise judgments of self-efficacy but are subject to cognitive interpretation on the part of the client (Bandura 1978, 1981), the client's appraisals of success experiences are monitored over the course of therapy to ensure that appropriate cognitions are being developed. When a client's efficacy expectations are not strengthened despite the successful completion of homework assignments, the Cognitive Appraisal Questionnaire provides a useful interview procedure to explore cognitive factors that may be interfering with the enhancement of self-efficacy. Any report of self-defeating ideation on the part of the client on this questionnaire may be used by the therapist to adjust the tasks assigned in an attempt to generate more constructive cognitions. Such adjustments may involve the introduction of a more graduated series of tasks to promote a perception on the part of the client that only a moderate degree of effort was necessary to bring about control over drinking; the adoption of more difficult or realistic assignments to promote a perception that the task was challenging or highly relevant to drinking situations frequently encountered; the removal of external aids, such as the involvement of collaterals in drinking assignments, or the use of an antialcohol drug, to promote self-attribution of improved performance; or the use of direct cognitive manipulations (e.g., self-instructional training) in an attempt to directly alter dysfunctional self-statements. Unless a client's experiences in drinking situations can be arranged so as to foster gains in self-efficacy, it is

unlikely that the changes brought about in drinking behavior during treatment will be maintained after discharge.

SUMMARY

A relapse prevention model for the treatment of alcoholics is proposed based on Bandura's theory of self-efficacy. The model involves a microanalysis of the drinking behavior of a client in high-risk situations for alcoholic relapse. The analysis is highly individualized and is situation specific. It is predicted that a client's cognitive appraisal of his or her past performance in a particular drinking situation will produce efficacy expectations about his or her coping ability, which, in turn, will determine future drinking behavior in that situation and its maintenance over time. Instruments are described for the assessment of three central elements of the model: risk situations for relapse (Inventory of Drinking Situations), cognitions associated with past performance (Cognitive Appraisal Questionnaire), and efficacy expectations (Situational Confidence Questionnaire). Client responses on the assessment instruments form the basis for the design and ordering of homework assignments to be undertaken by the client in treatment. An individualized gradient of performance tasks is the central component in the treatment process. Homework assignments, graded in terms of increasing difficulty over the course of treatment, focus on promoting successful performance in high-risk drinking situations as the primary vehicle of behavior change.

This relapse prevention model is currently being evaluated in two randomized control outcome trials being conducted at the Addiction Research Foundation of Ontario. In one study (Annis *et al.*, 1981), the relapse prevention model is being compared with more traditional methods of aftercare; it is hypothesized that relapse prevention strategies will result in higher levels of client self-efficacy with respect to drinking situations, and greater generalization and maintenance over time of treatment effects. In the second study (Peachey & Annis, 1983), the efficacy of the relapse prevention procedures in teaching alcoholics to use a short-acting alcohol-sensitizing drug (calcium carbimide) in anticipation of high-risk drinking situations is being compared with the more traditional use of this drug in medical primary care; clients receiving the relapse prevention procedures are encouraged to use the drug with decreasing frequency in the final phase of therapy. Follow-up results for the first study are expected to be available in 1985 and for the second study in 1986.

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Appendix A
Inventory of Drinking Situations

Listed below are a number of situations or events in which some people drink heavily.

Read each item carefully, and answer in terms of your own drinking **over the past year.**

If you "NEVER" drank heavily in that situation, circle "1"
If you "RARELY" drank heavily in that situation, circle "2"
If you "FREQUENTLY" drank heavily in that situation, circle "3"
If you "ALMOST ALWAYS" drank heavily in that situation, circle "4"

	I DRANK HEAVILY				
	Never	Rarely	Frequently	Almost always	
1. When I had an argument with a friend.	1	2	3	4	6
2. When I was depressed about things in general.	1	2	3	4	1
3. When I felt that things were going to work out well for me at last.	1	2	3	4	3
4. When I felt shaky and sick.	1	2	3	4	2
5. When I would decide to test my willpower by showing that I really could stop after one or two drinks.	1	2	3	4	4
6. When good friends would drop by and I would be full of good feelings.	1	2	3	4	8

(continued)

APPENDIX A (*Continued*)

	I DRANK HEAVILY				
	Never	Rarely	Frequently	Almost always	
7. When I would see an advertisement for my favourite booze.	1	2	3	4	5
8. When I felt uneasy in the presence of someone.	1	2	3	4	6
9. When someone criticized me.	1	2	3	4	6
10. When I would be invited to someone's home and they would offer me a drink.	1	2	3	4	7
11. When I would have trouble sleeping.	1	2	3	4	2
12. When I wanted to heighten my sexual enjoyment.	1	2	3	4	8
13. When I would get a bottle of my favourite booze as a prize or present.	1	2	3	4	5
14. When I was enjoying myself.	1	2	3	4	3
15. When I would be in a social situation in which I had always drunk in the past.	1	2	3	4	7
16. When I would become sad at the memory of something that had happened.	1	2	3	4	1
17. When I would start to believe that alcohol was no longer a problem for me.	1	2	3	4	4
18. When other people around me made me tense.	1	2	3	4	6
19. When I would be out with friends and they would stop by a bar for a drink.	1	2	3	4	7

(*continued*)

APPENDIX A (*Continued*)

	I DRANK HEAVILY				
	Never	Rarely	Frequently	Almost always	
20. When I would begin to think how cool and satisfying a drink would be.	1	2	3	4	5
21. When I wanted to feel closer to someone I liked.	1	2	3	4	8
22. When someone in the same room would be drinking.	1	2	3	4	7
23. When I felt that there was nowhere left to turn.	1	2	3	4	1
24. When I felt that I had let myself down.	1	2	3	4	1
25. When I felt sexually rejected.	1	2	3	4	6
26. When I was bored.	1	2	3	4	1
27. When I was unable to express my feelings to someone.	1	2	3	4	6
28. When other people treated me unfairly.	1	2	3	4	6
29. When I would remember how good it tasted.	1	2	3	4	5
30. When I felt rejected by friends.	1	2	3	4	6
31. When I felt confident and relaxed.	1	2	3	4	3
32. When I would see something that reminded me of drinking.	1	2	3	4	5
33. When I would begin to feel fed up with life.	1	2	3	4	1

(*continued*)

APPENDIX A (*Continued*)

	I DRANK HEAVILY				
	Never	Rarely	Frequently	Almost always	
34. When I was troubled and I wanted to think more clearly.	1	2	3	4	1
35. When I was lonely.	1	2	3	4	1
36. When I would convince myself that I was a new person now and could take a few drinks.	1	2	3	4	4
37. When I was feeling on top of the world.	1	2	3	4	3
38. When I would pass by a liquor store.	1	2	3	4	5
39. When I would be in a situation in which I was in the habit of having a drink.	1	2	3	4	5
40. When I felt drowsy and wanted to stay alert.	1	2	3	4	2
41. When I was tired.	1	2	3	4	2
42. When I was in physical pain.	1	2	3	4	2
43. When I would feel confident that I could handle a few drinks.	1	2	3	4	4
44. When someone close to me was suffering.	1	2	3	4	6
45. When I would start thinking that I would never know my limits with alcohol unless I tested them.	1	2	3	4	4
46. When I would be out with friends "on the town" and wanted to increase my enjoyment.	1	2	3	4	8

(*continued*)

APPENDIX A (*Continued*)

	I DRANK HEAVILY				
	Never	Rarely	Frequently	Almost always	
47. When I would unexpectedly find a bottle of my favourite booze.	1	2	3	4	5
48. When I was having a good conversation with someone and wanted to recount some really good stories.	1	2	3	4	8
49. When I would be offered a drink and would feel awkward about refusing.	1	2	3	4	7
50. When other people didn't seem to like me.	1	2	3	4	6
51. When I felt nauseous.	1	2	3	4	2
52. When I felt unsure that I could measure up to other people's expectations.	1	2	3	4	6
53. When I felt under a lot of pressure.	1	2	3	4	1
54. When I would wonder about my self-control over alcohol and would feel like having a drink to try it out.	1	2	3	4	4
55. When nothing I did seemed right to me.	1	2	3	4	1
56. When other people interfered with my plans.	1	2	3	4	6
57. When I would start thinking that I was finally cured and could handle alcohol.	1	2	3	4	4
58. When everything was going well.	1	2	3	4	3

(*continued*)

APPENDIX A (*Continued*)

	I DRANK HEAVILY				
	Never	Rarely	Frequently	Almost always	
59. When I felt no one really cared what happened to me.	1	2	3	4	1
60. When I would be at a party and other people would be drinking.	1	2	3	4	7
61. When I felt unsure of myself and wanted to function better.	1	2	3	4	1
62. When pressure would build up at work because of the demands of my supervisor.	1	2	3	4	6
63. When I couldn't seem to do things I tried to do.	1	2	3	4	1
64. When I was afraid that things weren't going to work out.	1	2	3	4	1
65. When I felt satisfied with something I had done.	1	2	3	4	3
66. When I felt jealous over something someone had done.	1	2	3	4	6
67. When I would pass by a bar.	1	2	3	4	5
68. When I felt empty inside.	1	2	3	4	1
69. When I would be in a restaurant and the people with me would order drinks.	1	2	3	4	7
70. When I felt exhausted.	1	2	3	4	2
71. When everything was going badly for me.	1	2	3	4	1
72. When I wanted to celebrate with a friend.	1	2	3	4	8

(*continued*)

APPENDIX A (*Continued*)

	I DRANK HEAVILY				
	Never	Rarely	Frequently	Almost always	
73. When someone would pressure me to "be a good sport" and have a drink.	1	2	3	4	7
74. When I would start to feel guilty about something.	1	2	3	4	1
75. When I felt jumpy and physically tense.	1	2	3	4	2
76. When I was angry at the way things had turned out.	1	2	3	4	1
77. When I would feel under a lot of pressure from family members at home.	1	2	3	4	6
78. When something good would happen and I would feel like celebrating.	1	2	3	4	3
79. When I was feeling content with my life.	1	2	3	4	3
80. When I would start thinking that I wasn't really hooked on alcohol.	1	2	3	4	4
81. When I would start to think that just one drink could cause no harm.	1	2	3	4	4
82. When I would be having fun with friends and wanted to increase our enjoyment.	1	2	3	4	8
83. When I felt confused about what I should do.	1	2	3	4	1
84. When I would meet a friend and he/she would suggest that we have a drink together.	1	2	3	4	7

(*continued*)

APPENDIX A (*Continued*)

	I DRANK HEAVILY				
	Never	Rarely	Frequently	Almost always	
85. When I would want to celebrate special occasions like Christmas or birthdays.	1	2	3	4	3
86. When I had a headache.	1	2	3	4	2
87. When I was not getting along well with others at work.	1	2	3	4	6
88. When I would be enjoying myself at a party and wanted to feel even better.	1	2	3	4	8
89. When I would suddenly have an urge to drink.	1	2	3	4	5
90. When I would think of the chances I had missed in life.	1	2	3	4	1
91. When I wanted to prove to myself that I could take a few drinks without becoming drunk.	1	2	3	4	4
92. When there were fights at home.	1	2	3	4	6
93. When I was enjoying a meal with friends and felt that a drink would make it even more enjoyable.	1	2	3	4	8
94. When there were problems with people at work.	1	2	3	4	6
95. When I would be relaxed with a good friend and wanted to have a good time.	1	2	3	4	8
96. When my boss would offer me a drink.	1	2	3	4	7
97. When my stomach felt like it was tied in knots.	1	2	3	4	2

(*continued*)

APPENDIX A (*Continued*)

	I DRANK HEAVILY				
	Never	Rarely	Frequently	Almost always	
98. When I felt happy at the memory of something that had happened.	1	2	3	4	3
99. When I felt that I needed courage to face up to someone.	1	2	3	4	6
100. When I felt that someone was trying to control me and I wanted to feel more independent.	1	2	3	4	6

Appendix B
Situational Confidence Questionnaire

Listed below are a number of situations or events in which some people experience a drinking problem.

Imagine yourself as you are right now in each of these situations. Indicate on the scale provided how confident you are that you will be able to resist the urge to drink heavily in that situation.

Circle **100** if you are 100% confident right now that you could resist the urge to drink heavily; **80** if you are 80% confident; **60** if you are 60% confident. If you are more unconfident than confident, circle **40** to indicate that you are only 40% confident that you could resist the urge to drink heavily; **20** for 20% confident; **0** if you have no confidence at all about that situation.

	I would be able to resist the urge to drink heavily not at all confident ... very confident						
1. If I had an argument with a friend,	0	20	40	60	80	100	6
2. If I were depressed about things in general,	0	20	40	60	80	100	1
3. If I felt that things were going to work out well for me at last,	0	20	40	60	80	100	3
4. If I felt shaky and sick,	0	20	40	60	80	100	2
5. If I would decide to test my willpower by showing that I really could stop after one or two drinks,	0	20	40	60	80	100	4
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100.							

22

Aftercare in Alcoholism Treatment

A Review

JOANNE R. ITO AND DENNIS M. DONOVAN

Successful treatment of a chronic condition, such as alcohol dependence, often involves extended rehabilitation. As such, the goal of rehabilitation is to move the patient back into normalized interpersonal and community life. Alcohol dependence, like other addictive behaviors, poses a special challenge to the treatment community. Treatment programs are successful in helping patients achieve sobriety, but are often less successful in helping patients maintain sobriety. Alcohol dependence has a rate of recidivism second only to schizophrenia (National Institute of Mental Health, 1973) and has a high rate of relapse following treatment (Hunt, Barnett, & Branch, 1971; Litman, Eiser, & Taylor, 1979). This suggests that inpatient treatment may be necessary but not sufficient for full recovery. In fact, Hunt, Barnett, and Branch's (1971) data indicate that patients are at great risk for relapse in the first month following inpatient discharge.

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JOANNE R. ITO • Department of Psychology, University of Washington, and Health Services Research and Development, Seattle Veterans Administration Medical Center, Seattle, Washington 98108. DENNIS M. DONOVAN • Department of Psychiatry and Behavioral Sciences, University of Washington, and Alcohol Dependence Treatment Program, Seattle Veterans Administration Medical Center, Seattle, Washington 98108. Preparation of this manuscript was partially supported by the Health Services Research and Development Training Program at the Seattle Veterans Administration Medical Center and the University of Washington.

Tuchfeld (1981) and Litman and Oppenheim (unpublished manuscript) describe the experiences of spontaneous and treated long-term recoveries, respectively. These authors outline the nature of life changes and coping strategies important in successfully maintaining sobriety. They suggest that a crisis breaks the alcoholic's defenses and thus precipitates the alcoholic's journey into sobriety. Recovering alcoholics must then seek or create an environment and life-style supportive of their sobriety. This includes avoiding external situations associated with drinking, developing ways of refusing drinks offered, and avoiding former drinking companions. It is also important for them to develop nondrinking leisure activities to fill the void left when they stop drinking. These reports are rich in clinical information, but reflect only the beginning of a growing interest in the processes that underlie successful maintenance of sobriety.

Aftercare treatment has been held up as an important component of treatment that is oriented towards maintenance of therapeutic gains (Joint Commission on Accreditation of Hospitals, 1974; World Health Organization, 1955). There is considerable evidence that briefer hospitalization followed by outpatient aftercare appears cost-effective when compared to longer hospitalization (Costello, 1975; Finney, Moos, & Chan, 1981; Page & Schaub, 1979; Pittman & Tate, 1969; Pokorny, Miller, & Cleveland, 1968; Walker, Donovan, Kivlahan, & O'Leary, 1983). Some authors contend that aftercare may be *the* active ingredient in successful alcohol treatment. For example, Baekelund (1977) suggests that once detoxification is complete, patients may be discharged and successfully followed in an aftercare program rather than continuing in further inpatient treatment. Page and Schaub (1979) suggest that inpatient treatment be called an "orientation program," because the goals for short-term hospitalization are modest. The term *orientation program,* as they describe it, refers to a shortened inpatient stay. Orientation would then be followed by a carefully planned and extended aftercare treatment.

As will become clear in the present chapter, the term *aftercare* has assumed a number of different meanings and has encompassed a variety of intervention strategies. Harmon, Latinga, and Costello (1982) have proposed a definition of aftercare based on the functions that it appears to entail. There are two important components. First, aftercare is conceptualized as those therapeutic activities that function to maintain those gains achieved in an earlier phase of treatment as opposed to procedures that attempt to promote or develop new skills. Second, aftercare is conceptualized as being appropriate to every form of primary care modality that has preceded it. Thus, it would be possible to develop aftercare plans to accompany initial involvement in outreach activities, emergency treatment, inpatient treatment, intermediate care, or outpa-

tient treatment. The aftercare goals will vary depending on the component in the treatment continuum that they accompany. Whereas this definition promotes a broad perspective across the spectrum of treatment, most available literature has focused on aftercare services provided following an inpatient hospitalization. Despite the conviction that aftercare is crucial to successful recovery, there has been relatively little research reported in the alcoholism literature that evaluates the effectiveness of aftercare.

Aftercare services make sense. Aftercare can provide a variety of therapeutic and social supports to the recovering alcoholic. First, aftercare may allow for early detection of relapse and thus, early intervention in the relapse process. Second, following a return to the community, aftercare may provide a means for patients to evaluate new behaviors. This function of aftercare may be especially important because recovery often requires the patient to make major life-style changes. Third, Prochaska and DiClemente (1983; see also Chapter 1 in this volume) assert that people at different stages of change (precontemplation, contemplation, decision making, action, maintenance, and relapse) selectively apply various change processes (e.g., consciousness-raising, counterconditioning, helping relationships). They note that relapsers may use coping strategies similar to those of recent quitters, and that maintenance is an active stage of change, rather than an absence of change. This suggests that aftercare services focusing specifically on maintenance and providing appropriate support for relapsed patients are indicated for the recovering alcoholic.

The present chapter critically reviews the alcoholism aftercare literature. Included in the review are articles reporting on outpatient and social support aftercare services following inpatient alcohol treatment or detoxification, but does not include reports examining residential treatment. First, the chapter reviews research addressing the relationship between aftercare attendance and treatment outcome. Anecdotal and descriptive, correlational, and cross-lagged correlational reports are presented in three separate sections. Second, research that identifies factors affecting aftercare attendance is reviewed. Experimental and correlational studies are critiqued. The last part of the chapter includes an overview and methodological critique of the research, and offers suggestions for future studies.

AFTERCARE EFFECTIVENESS

Anecdotal and Descriptive Studies

Five studies offer descriptive or poorly controlled data on the contribution of aftercare in treatment outcome.

Pittman and Tate (1969) report one-year follow-up data from a study in which a treatment package (3 to 6 weeks inpatient care followed by outpatient aftercare) was compared to detoxification only (7 to 10 days inpatient care), for a sample of 237 low socioeconomic status (SES) male and female subjects. Aftercare was provided by inpatient treatment staff and Alcoholics Anonymous (A.A.). The effectiveness of the entire treatment package can be assessed, but the effects of aftercare cannot be separated out. The authors observed that 18 of the 19 abstinent patients in their treatment package group had extensive outpatient contact with treatment staff. Of the three abstinent patients from the detoxification-only group, one had frequent contact with A.A., and one had become highly involved with a local church. The base rate of aftercare use and information about nonabstinent patients who were heavy aftercare users is not reported. The authors suggest that following hospitalization, strong supports for sobriety may be necessary to maintain abstinence in low SES populations.

Chvapil, Hymes, and Delmastro (1978) examined continuity of care in aftercare. They report on a post hoc comparison of 20 matched subjects receiving group psychotherapy aftercare. Aftercare was provided at either the same facility where they had received inpatient care or elsewhere. The authors report that the former group of patients had "better" aftercare attendance and abstinence rates, and contend that inpatient and outpatient follow-up care should be offered at the same treatment site. This report has several major limitations: (a) the follow-up period is unspecified, (b) the patient population and matching procedures are not described, (c) the comparison is post hoc, and (d) no statistical analyses are presented. This report can offer only very weak evidence supporting the effectiveness of aftercare or the influence of continuity of care on aftercare attendance.

Finney, Moos, and Mewborn (1980) include a brief discussion of aftercare in their report of 2-year follow-up data. They report that subjects who attended at least one A.A. meeting or outpatient session (attenders) reported less depression in follow-up than those who attended no A.A. meetings or outpatient sessions (nonattenders). Attendance status was not related to drinking outcome. The base rate of aftercare use was not reported.

Kirk and Masi (1978) examined community mental health center (CMHC) data on a sample of 395 patients who received inpatient alcohol treatment. Readmission for inpatient alcohol treatment during a 3-year follow-up period is reported. Almost half (47.8%) of their sample attended at least one aftercare session following the index admission. The median number of CMCH outpatient sessions attended was 6, and the median number of days of care was 12 (e.g., a few weeks). More atten-

ders than nonattenders were readmitted during the follow-up period. Attenders also reported significantly more chronic drinking problems. The authors qualified their conclusions because of (a) the low rate of aftercare use in CMHC, (b) aftercare may improve functioning in areas not measured, (c) the apparent confound between aftercare attendance and chronicity of alcohol problems in the study (i.e., 40% of subjects with one hospitalization used aftercare services, whereas 60% of subjects with at least 3 hospitalizations used aftercare services), and (d) failure to assess involvement in other aftercare programs.

Katz, Morgan, and Sherlock (1981) report an uncontrolled follow-up of 36 alcohol patients who received inpatient medical treatment for liver disease. This report is a single-group case study. Two out of three patients kept at least 75% of their individually tailored aftercare appointments. A variety of outpatient treatment was available to these patients (e.g., behavioral therapies, family/marital therapy, sex therapy, vocational counseling). Clinical observations are provided in their discussion. The authors note that outpatient therapy can be an important source of support for the relapsed patient. This report, although rich with clinical observations, offers no evidence on the effectiveness of aftercare. It does suggest, however, that involvement in aftercare allowed closer contact between patient and provider, and allowed for earlier intervention into the relapse process by provision of rehospitalization. Like other studies presented in this section, this report is limited by its descriptive and uncontrolled nature.

Correlational Studies

Seven studies providing correlational data examining the relationship between aftercare participation and treatment outcome are reviewed in this section.

Dubourg (1969) presents 12- to 30-month follow-up data on 76 male patients. Aftercare was provided in a variety of settings, such as mental health, probation, A.A., social work, and employment and housing assistance offices. Dubourg reports that aftercare use was not associated with an improved status at outcome. Two thirds of the patients not receiving aftercare did well. Patients receiving aftercare were twice as likely to relapse. Dubourg suggests that support provided by family and friends may be more important to recovering alcoholics than therapeutic or social service support. Dubourg notes that roughly half of patients with good outcome report that they relied only on support provided by their relatives, but does not report similar data for patients with poor outcome. This study is limited by the low base rate of aftercare use reported. Only 15% of this sample had at least one aftercare contact, and

8% made more than 3 aftercare visits. In addition, Dubourg included contact with probation officers and contacts for employment and housing assistance (9 of 76 subjects). These services may be important in helping patients enter normalized community life, but their connection to abstinence and reduced drinking would be, at least, indirect.

Ritson (1969) reported 6- to 12-month follow-up data on 50 male and female inpatients. Outpatient group aftercare was provided at the same treatment facility. In the year following hospital discharge, both frequent aftercare attendance (attended 12 or more weekly outpatient groups in the follow-up year) and disulfiram use were associated with favorable drinking outcome. Because the correlation between aftercare attendance and disulfiram use was not reported, the aftercare-drinking outcome relationship may be mediated by disulfirarm use. Ritson also points out another possible explanation for the aftercare-outcome correlation: relapsed patients were reported to avoid treatment. This suggests a need to recontact relapsed patients.

Pokorny, Miller, Kanas, and Valles (1973) present one-year follow-up data on 91 V.A. inpatients. Group therapy aftercare was provided by the same program. Patients attending at least eight aftercare sessions were identified as aftercare participants (25% of the sample). Aftercare participation was associated with higher probability of both abstinence and an improved drinking status. An attempt was made to identify subject variables predicting aftercare participation. A better pretreatment work history, better psychiatric adjustment, and posttreatment marital and residential stability were associated with more frequent use of aftercare.

Van Dijk and Van Dijk-Koffeman (1973) reported outcome in follow-up of at least 30 months on 200 male patients who had been treated. Most of the aftercare the patients received was provided by the Dutch Bureau for Alcoholism. Aftercare was also provided by family physicians, social work services, and private psychiatrists. Forty-five percent of this sample actively sought and attended aftercare and 99% had specific aftercare referrals. The authors compared patient "attitude toward aftercare," classifying attitudes as active, compared to passive and withdrawing attitudes toward aftercare. Both groups were equally likely to be abstinent. There was, however, a significant association between active participation in aftercare and improved drinking status. A strength of this study lies in the relatively large sample size and in the high base rate of aftercare use.

Davidson (1976) reports 6-month follow-up data on 100 male and female subjects. Aftercare consisted of A.A., outpatient group therapy provided by the treatment unit, and monthly patient-reunion meetings. The base rate of aftercare contact was not reported. Formal or informal

contact with former alcoholics was associated with greater abstinence. Whether that contact came in therapy groups, A.A., or reunion meetings did not seem important. It was suggested that the postdischarge receipt of social support from recovering peers is important. The need for support from professional staff members, however, was called into question. Davidson notes that the lack of adequate and systematically gathered pretreatment patient data limits the interpretation of the results.

Walker *et al.* (1983) investigated the effects of length of inpatient hospital stay in an alcoholism program and patients' neuropsychological status on treatment outcome. Aftercare, consisting of weekly outpatient group therapy meetings provided by the treatment program, was analyzed as a nonrandomized covariate. Follow-up of 245 male V.A. patients over a 9-month interval indicated that aftercare involvement was strongly related to aspects of treatment outcome. The results of regression analyses indicated, in particular, that the duration of involvement in aftercare added significantly to the prediction of the number of heavy drinking days, the level of stability in residential status, and the average number of drinks consumed per day. The contribution made by aftercare involvement to the prediction of outcome was significant even after pretreatment demographic, drinking-related, and functional characteristics of patients had been taken into account. The salience of aftercare was noted further in a post hoc analysis. Of the original sample of 245 patients, approximately 35% of the patients completed their commitment to attend aftercare for 9 months. Aftercare completers were three times more likely to remain abstinent than those who dropped out of aftercare before the contracted time (70.2% vs. 23.4% abstinence, respectively). Similarly, the former individuals were also characterized by significantly better drinking dispositions and residential stability when compared to aftercare dropouts.

Walker *et al.* (1983) also attempted to explore those patient characteristics that predicted duration of aftercare involvement. Neither the randomly assigned length of hospital stay (2 weeks or 7 weeks) nor the level of neuropsychological impairment predicted aftercare involvement. Duration of aftercare involvement and completion of the aftercare contract were associated with average monthly income prior to admission, age, and verbal intelligence. In each case, higher levels of these variables were associated with either longer aftercare involvement or contract completion. It is of interest to note that there was no overlap between those characteristics that predicted drinking outcome and those pretreatments associated with aftercare involvement. This finding, in conjunction with the significant additional contribution made by aftercare to outcome, provides evidence consistent with that of Costello

(1980), and Vannicelli (1978) discussed later. In particular, this constellation of results suggests that aftercare involvement has a positive effect on treatment outcome and that this effect is independent of the influence exerted by patients' pretreatment level of general adjustment.

Using a survival analysis, Siegel, Alexander, and Lin (1984) examine the relationship between aftercare utilization and the probability of readmission for 2 years subsequent to the index admission. Results are reported for a cohort of 325 male and female subjects from a middle-class suburban community. Aftercare services were provided in the community mental health system and included services such as individual, group, and medication treatment; day treatment; and vocational rehabilitation services. Subjects were classified as compliers (those who used aftercare services at least once) and noncompliers (those who used no aftercare services). Forty-three percent of the sample were classified as compliers, 53% as noncompliers. It is reported that the risk for readmission was greatest in the first 4 months after the index admission, that aftercare compliers were less likely to be readmitted than noncompliers, and that this was only true when the index admission was the subject's first admission for alcohol treatment. The authors speculate that subjects with multiple admissions have an established pattern of chronicity/relapse and are more resistent to the effects of aftercare services. The authors suggest that vigorous efforts to facilitate entry into aftercare should be focused on first admissions because (a) 40% of first admissions in the sample were noncompliers, and (b) aftercare appears to be most effective in preventing relapse for first admission compliers.

These correlational reports present suggestive but uncontrolled evidence regarding the usefulness of aftercare. Posthospital support of any nature (e.g., outpatient groups, family support, A.A.) appears associated with improved outcome and drinking status as well as decreased risk of readmission. The relationship of aftercare attendance to abstinence is less clear. The strength and direction of the aftercare-outcome relationship can be estimated from these reports. This correlation can be explained in a variety of ways. Ritson, for example, suggests that relapse may precipitate aftercare dropout. Davidson suggests that seeking social support may be related to both aftercare use and treatment outcome. Pokorny *et al.*'s (1973) data suggest that the patient's level of general adjustment may mediate the aftercare/outcome relationship, whereas Walker *et al.* (1983) suggest that the effects of aftercare and independent of the patient's pretreatment level of adjustment. Based on the studies reviewed above, the importance of aftercare in treatment outcome cannot be determined. Aftercare attendance may instead reflect other critical factors, such as motivation, general adjustment, or drinking status itself.

Cross-Lagged Correlational Studies

The cross-lagged correlational design is a nonrandomized design that allows causal inference. In a simple correlational design, the variables of interest are measured at a single point in time, and the relationship between these variables is examined. The primary limitation of the simple correlation is that no single explanation of a significant correlation (e.g., that A causes B, B causes A, or another variable causes both A and B) can be ruled in or out. In a cross-lagged correlational design, variables of interest are measured for at least two points in time. It is then possible to compute simple correlations for bivariate pairs and examine them for temporal assymetry. For example, a model that suggests that A causes B would predict that the A (time 1)/B (time 2) correlation would be stronger than the B (time 1)/A (time 2) correlation. By examining the pattern of simple correlations, causal interpretations may be made. Two studies examining the relationship between aftercare attendance and treatment outcome in a cross-lagged correlational design have been published to date.

Vannicelli (1978) examined aftercare attendance and treatment outcome at 3 and 6 months after discharge for 100 male and female subjects. The measure of aftercare was the total number of meetings attended of all kinds, including religious resources, women's, and open aftercare groups. Outcome was assessed using an 8-point self-report scale that measured amount of drinking and its impact on social, vocational, marital, and physical functioning in the past month. The 3-month aftercare/6-month outcome correlation was higher than either the 3-month aftercare/3-month outcome or the 3-month outcome/6-month aftercare correlations. This pattern of correlations is consistent with aftercare participation leading to better drinking outcome, and is inconsistent with better drinking outcome leading to more participation in aftercare. Vannicelli also notes that this study cannot rule out motivation as an explanation of results. The generalizability of this study is limited because patients self-selected aftercare, so enforced aftercare attendance may produce a less favorable outcome.

Costello (1980) also used a cross-lagged correlational design for 37 male subjects, improving on Vannicelli's study by extending follow-up to 12 and 24 months and indexing social stability and inpatient behavioral adjustment as prognostic indicators. A composite score that takes residential stability, interpersonal relationships, social activity, health, employment, and drinking status into account was used as the outcome measure. Aftercare included all postdischarge visits to the treatment unit for social gatherings, disulfiram, or verbal therapy. Costello found two systems predicting outcome. First, general adjustment at intake

predicted 1- and 2-year outcome. Second, aftercare attendance during the first year post discharge was directly related to outcome at year 1 and 2. Intake variables did not predict aftercare use, which indicated that the effects of aftercare were independent of measured patient prognostic variables. Costello suggests that program planners should give priority to achieving frequent aftercare attendance soon after discharge to minimize aftercare drop out and maximize positive outcome.

The results of these cross-lagged correlational studies suggest that aftercare attendance leads to improved treatment outcome. Costello's findings, like Walker *et al.*'s (1983) data, also suggest that the influence of aftercare is independent of general adjustment (i.e., functioning at intake). The correlational studies equivocally suggest that aftercare contributes to treatment outcome and this conclusion is strengthened by the positive findings of the cross-lagged correlational studies. Aftercare attendance provides protection against relapse, and apparently operates independently of intake prognostic indicators.

FACTORS EFFECTING AFTERCARE PARTICIPATION

Experimental Studies

In treatment-outcome research, the effectiveness of a treatment package must be established first. Once effectiveness has been demonstrated, the critical and nonspecific elements of a treatment can be researched. From a clinical perspective on aftercare, predictors of effectiveness and attendance would provide valuable guidelines in program planning. Four experimental studies that attempted to identify factors affecting aftercare attendance are presented in this section.

Intagliata (1976) randomly assigned 40 male V.A. patients to one of the two "outreach" conditions. The control group received no telephone contact from staff after their discharge from inpatient treatment. The other 20 experimental subjects received 6 telephone calls from staff in the first 10 weeks after discharge. These phone calls were used to express staff concern about the patient's welfare and to attempt to increase the patient awareness of and encourage use of the supportive outpatient services provided by the treatment program. The nature of outpatient services provided is not described in the report. Intagliata found that the experimental group made significantly greater use of outpatient services than the control groups in the 3-month follow-up period. A median break of 20 units of service was used to assign patients into high- and low-use groups. High use of outpatient services was positively related to abstinence. Although limited by its small sample size and short follow-up

period, this study underscored the effectiveness of low-cost outreach practice, such as telephoning patients, in increasing aftercare attendance.

Panepinto, Galanter, Bender, and Strochlic (1980) report on the quasi-experimental evaluation of a programmatic change designed to reduce attrition in the transition from inpatient to aftercare treatment. Briefly, the intervention cohort received, as inpatients *and* as outpatients, orientation lectures that emphasized the importance of outpatient treatment in recovery. Lectures were followed by a meeting where outpatients were encouraged to share with the inpatients their experiences in making the transition to sobriety and life in the community. The comparison cohort consisted of patients admitted during the same 6-month period as the intervention cohort, during the prior year. During the comparison period, inpatients and outpatients received separate orientation sessions. Then, following inpatient discharge, comparison cohort patients received the outpatient orientation series and continued to receive individual counseling. Results are reported for 313 subjects in the intervention cohort and 257 subjects in the comparison cohort. Outpatient services are not well described in the paper. Attendance as outpatients, in the first 30 days after inpatient discharge, was the outcome measure. The analysis showed that the preparatory outpatient orientation improved aftercare attendance in the first postdischarge month. In the discussion of the results, the authors attribute increased aftercare attendance to the orientation's reducing anxiety associated with entering a new program and increasing the patients' sense of affiliation with the outpatient aftercare program.

Ahles, Schlundt, Prue, and Rychtarik (1983) evaluated the effects of two different scheduling practices on aftercare attendance and drinking outcome. Follow-up data at 12 months were presented for 50 male V.A. patients. Aftercare consisted of weekly individual problem-oriented counseling sessions provided by the treatment unit. The control group consisted of the unit's usual practice of scheduling aftercare session by session. This meant that during a session an appointment for the next session would be scheduled. The experimental group was involved in a behavioral contract scheduling procedure. These patients received a calendar with eight aftercare appointments marked in red for the first 6 postdischarge months. They also were instructed to display the calender prominently, attend aftercare regardless of drinking status, and reschedule missed appointments. As an attendance incentive, experimental patients contracted with a significant other to do something special (e.g., go out to eat) within a week of a kept appointment. It was found that behavioral contract scheduling increased aftercare attendance and that behavioral contract subjects were more likley to be abstinent and improved in their drinking at one-year follow-up (39.9% vs. 11.1%). It

was noted that experimental subjects tended to do better in the first 6 months of follow-up, when aftercare was provided, than in the next 6 months, when it was not provided.

Caddy, Addington, and Trenschel (1985) evaluated several kinds of aftercare services that were offered to subjects in addition to the group based aftercare offered by the hospital. This study compares no contact, monthly telephone contact only, and two levels (four and eight sessions) of either disease-model supportive therapy or cognitive-behavioral supportive therapy following inpatient treatment. Data on 60 subjects (10 in each condition) are reported for a 12-month follow-up period. The disease-model supportive therapy consisted of an "abstinence reinforcement sequence" which stressed the following: an alcoholic identity, alcohol allergy, alcholism as a progressive and incurable disease, and abstinence as a necessary condition for recovery. The behavioral-cognitive supportive therapy consisted of the following: a commitment to self-regulation, a cognitive behavioral view of relapse, cognitive coping skills, relaxation, assertive and/or anxiety management training. Each of these two aftercare approaches was delivered in the form of home visits at the patient's residence. Unlike other studies described here, the number of aftercare sessions was an independent variable. Results are reported for three sets of outcome measures: drinking outcome, general adjustment, and attitude. General adjustment (e.g., occupational and marital status) showed no group differences. For drinking outcome measures on which differences were found, group differences tended to favor either the eight-session cognitive-behavioral therapy (days functioning well) or both the four- and eight-session cognitive-behavioral conditions (days functioning well, days intoxicated, and self-described drinking). The attitudinal measures show subjects in the eight-session behavioral condition as more likely to endorse a habit (versus disease) view of alcoholism, less likely to characterize their drinking as loss-of-control drinking, and as rating themselves more likely to use aftercare services at 6 months postdischarge. The authors conclude that the content of aftercare makes a difference in outcome. It was noted that the learning perspective was acceptable to most subjects, where the disease perspective often was not, and that the learning perspective increased patient receptiveness to ongoing aftercare. Although the cognitive-behavioral approach to alcohol treatment is often associated with a controlled drinking treatment goal, these authors conceptualize their cognitive-behavioral therapy as a "behavioral inoculation" in which approximations to sobriety are shaped. The authors note, paradoxically, that the shaping process seemed to reinforce a decision to be abstinent for the cognitive-behavioral patients rather than to undermine a commitment to sobriety.

One strong conclusion that can be drawn from the research reviewed in this section is that aftercare attendance can be manipulated directly and with relatively low-cost and simple interventions (follow-up phone calls, orientation lectures, and behavioral contract scheduling). In addition, the resulting increase in aftercare attendance is associated with a more favorable treatment outcome. The Caddy *et al.* report suggests that content may contribute significantly to the effectiveness of aftercare: the learning perspective was especially useful in reinforcing and maintaining improvements that initially occurred over the course of inpatient treatment.

Correlational Studies

The three studies reported in this section use correlational designs to identify predictors of aftercare attendance.

Pratt, Linn, Carmichael, and Webb (1977) administered the Ward Atmosphere Scale (Moos, 1974) to 35 male V.A. patients within a week of inpatient admission. Aftercare consisted of weekly outpatient groups provided by the treatment unit. Aftercare attendance was measured in the first 3 months after discharge. Drinking status and other outcome measures were not assessed. The results showed that those patients who attended at least one aftercare session ($N = 13$) perceived significantly more autonomy on the ward than did nonattenders ($N = 22$). The authors interpreted these findings to suggest that inpatient treatment that maximizes patient autonomy and active decision making might increase participation in aftercare. Although this report is interesting, it is limited by a short follow-up period and a lack of information concerning outcome.

Prue, Keane, Cornell, and Foy (1979) examined the effect of transportation variables on 3-month aftercare attendance. Data for 40 V.A. patients living within 40 miles of the hospital are presented. The aftercare program consisted of individual problem-oriented counseling provided by the treatment program. In a multiple regression analysis, the number of miles to a freeway and miles on a freeway (to the hospital) were found to be significant predictors of 3-month aftercare attendance. Miles to the freeway was significantly more important than miles on a freeway. This suggests that travel time or travel effort may be more critical than distance *per se*. The authors point out that their findings have implications for the arrangement of aftercare services: for patients living far away from the hospital, a more conveniently located aftercare referral might be considered.

Erwin and Hunter (1984) examined cognitive functioning and demographic variables as predictors of aftercare attendance. Data are re-

ported for 80 male and female subjects over a 10-week period following discharge from inpatient treatment. Aftercare consisted of weekly group sessions in which patients discussed their ongoing efforts to rehabilitate themselves. Cognitive functioning was measured on abstract reasoning and field dependence tasks. Demographic variables examined were age, occupation, and education. The authors found that subjects characterized by field dependence and preoperational and concrete-operational cognitive styles dropped out of aftercare at a rate of 70%, compared to a 20% dropout rate for field independent and formal operational subjects. Occupation and education correlated significantly with aftercare attendance and cognitive functioning, but accounted for only one third as much variance as the measures of cognitive functioning. This study is limited by a brief follow-up and a lack of information on drinking and other outcome measures. Erwin and Hunter, noting the prevalence of field-dependent and concrete-operational thinking (54% in this solidly middle-class sample), suggest that rehabilitation programs should maximize concrete training and minimize verbal symbolic material in order to increase the likelihood that patients will participate in and benefit from treatment.

The variety of predictors examined in the studies reviewed in this section is great. This makes it difficult to distill any themes or conclusions about the prediction of aftercare attendance. Instead, there are three quite separate conclusions. First, the autonomy perceived by patients during the course of inpatient treatment may affect aftercare attendance. Second, distance traveled to aftercare should be a consideration when aftercare referrals are made. Third, it may be wise to take the cognitive functioning of patients into account when planning aftercare services.

SUMMARY AND CONCLUSIONS

Our review suggests that aftercare for alcoholics contributes significantly to positive treatment outcome. The effects of aftercare are substantive and appear to be independent of the general adjustment system that also influences treatment outcome (Costello, 1980; Walker *et al.*, 1983). Aftercare attendance seems to be more strongly related to improved drinking status than abstinence rates (see Table 1). This suggests that after achieving abstinence during inpatient treatment, patients must learn how to stay sober in a learning process that might involve some testing of limits and making mistakes (i.e., violating abstinence).

Aftercare probably has as one of its important functions the early detection of and intervention in relapse. Aftercare does not appear relat-

TABLE 1.
Aftercare Efficacy: Summary Table

Type of data	*N* of Citations	Aftercare related to abstinence			Aftercare related decreased drinking		
		Yes	No	NA	Yes	No	NA
Descriptive/Anecdotal	5	2	—	3	1	1	3
Correlational	7	2	3	2	5	1	1
Cross-lagged Correlational	2	—	—	2	2	—	—
Totals	14	4	3	7	8	2	4

ed to preventing a first slip, because aftercare attendance is not related to increased rates of abstinence. It is, however, related to improved drinking status. It may be that at the beginning of a full relapse (i.e., a slip) patients may drink but in a limited manner (e.g., 2 beers or 1 glass of wine). After a slip they may be at risk in two areas that are important to their recovery:

1. They may be at risk for a full-blown relapse and a quick return to a destructive pattern of drinking (Marlatt & Gordon, 1980).
2. They may be at risk for cutting themselves off from social supports that are essential to their recovery. They may be more likely to drop out of treatment, stop going to A.A., and stop calling or seeing their sober friends.

In aftercare, patients may get help in coping with the stresses that lead up to the slip and the stress created by the slip itself. If they can discuss their slip soon after it occurs and get support, they may be able to regain their sobriety and maintain their social support network for sobriety. In this way their recovery may continue, in spite of the slip, rather than end. In order for aftercare to prevent a slip from becoming a full-blown relapse, patients must let their support network know of the slip. Providing clear programmatic expectations that slips will be acknowledged immediately, the rationale for this expectation, and reassurance to patients that the consequences of the disclosure will not necessarily be punitive would help to increase the liklihood that a slip will be identified early and appropriate interventions made (Donovan & Chaney, 1985).

It appears that aftercare attendance can be increased by relatively inexpensive interventions, such as telephone calls (Intagliata 1976), orientation lectures (Panepinto *et al.*, 1980), and behavioral contract sched-

uling (Ahles *et al.*, 1983). Some guidelines for increasing aftercare attendance can be made based on the studies reviewed here.

1. Some patient characteristics are associated with aftercare utilization. Patients who use aftercare services are those with more stable work and psychiatric-adjustment histories, who perform better on indicators of cognitive functioning, (Erwin & Hunter, 1984; Walker *et al.*, 1983) and have postdischarge marital and residential stability. It may be helpful for clinicians to be aware of these predictors so that, for example, an unmonitored change of residence does not prevent outreach efforts. In addition, Erwin and Hunter recommend that aftercare programs make the content and presentation of their programs concrete rather than verbal and symbolic to make material more understandable and useful to patients. McLachlan (1972, 1974), however, has found that for alcoholic patients, a patient–therapist match on conceptual level (CL) led to better outcome and mismatch to poorer outcome. CL is a measure of interpersonal development that entails both cognitive complexity, and development along a dependency–interdependency dimension. Seen in this context, it seems that *matching* patients and treatment on cognitive complexity might help to reduce attrition from aftercare.

2. Pratt *et al.*'s (1977) findings suggest that when patients participate in decisions effecting their treatment as inpatients, they are more likely to participate in aftercare.

3. Chvapil *et al.*'s (1978) data suggest that there may be a benefit, both in terms of aftercare attendance and abstinence, from aftercare services being provided at the same facility where inpatient treatment had been received.

4. For patients living far from the treatment facility, an aftercare referral closer to where they live should be considered (Prue *et al.*, 1979). It might also be helpful in this situation to ask the patient to make arrangements for aftercare prior to inpatient admission.

Other research is beginning to delineate parameters that will aid clinicians and program planners in selecting optimal referral patterns (cf. Prue *et al.*, 1979; Siegel *et al.*, 1984) and perhaps in the identification of patients at risk for aftercare dropout (Erwin & Hunter, 1984).

This review examined studies reporting on the efficacy of aftercare attendance. It appears from correlational studies of efficacy that posthospitalization support of any kind (e.g., outpatient groups, family or church support, A.A.) is associated with improved outcome and drinking status, especially for first admission patients (Siegel *et al.*, 1984) Vannicelli (1978) and Costello (1980), in their cross-lagged correlational reports, both found that aftercare attendance leads to improved drinking outcomes. Social support may be important because it may provide the recovering alcoholic with (a) a nondrinking social network, and (b) a

place for the patient to get support, help, and assistance in coping with stress in new and nondrinking ways. These two functions of posthospitalization social support can reduce the chances that the recovering alcoholic will relapse when coping with social pressure to drink or with negative mood states. Marlatt and Gordon (1980) found that these two categories of high-risk situations accounted for 56% of the alcohol relapse in their sample. Marlatt and Gordon's relapse data suggest that the development of a nondrinking social world and of nondrinking methods of coping with emotional stress are critical elements in recovery. Cronkite and Moos (1980) found that posttreatment stress accounted for 30% of the variance in alcohol consumption outcomes and for more than 50% of the variance when abstinence and depression are outcome criteria. Of the posttreatment factors investigated, stressors and coping behavior account for most of the variance. What these findings suggest is that for drinking- and mood-related outcomes, patients may be especially vulnerable to relapse after inpatient treatment. Taken a step further, Cronkite and Moos' results underscore the need for outpatient aftercare services, because posttreatment stress and coping are the most important determinants of treatment outcome as they measured it. Litman and Oppenheim (unpublished manuscript) suggest that avoiding temptation and seeking social support, as methods for coping with urges to drink, are very important to survival, especially early in recovery. In aftercare, patients gain contact with sober people, and can get support from others who are also coping with the loss of a major aspect of their life, alcohol.

Although aftercare participation appears associated with improvement, methodological flaws and inconsistencies in reporting research make integrating findings difficult. Some excellent general guidelines for the evaluation of alcohol treatment research are available (Emrick & Hansen, 1983; Maisto & McCollam, 1980; Nathan & Lansky, 1978) and are applicable to aftercare research as well. Briefly, these authors suggest reporting of diagnostic criteria, control, and comparison groups; and handling of treatment and follow-up dropouts in describing sample characteristics. Adequate description of the intervention, the design, therapist qualifications and training, treatment variables, and follow-up procedures should be included. Outcome measures should control for investigator bias, include multiple sources of data and multidimensional outcome criteria. In the reporting of results, caution should be exercised, the difference between clinical and statistical significance be remembered, and the generalizability of the results be discussed.

Following are some additional recommendations applying specifically to aftercare research. The following paragraphs highlight aftercare research design and reporting issues.

1. *Definition of Aftercare:* A wide variety of treatment services fall under the rubric of "Aftercare." Services provided vary by (a) *modality* (individual, family/couples, group); (b) *organization* (referral and staffing patterns, continuity of care); (c) *time parameters* (time limited or open-ended); (d) *therapeutic orientation* (behavioral, insight, process, etc.); (e) *purpose* (psychotherapy or social support, social services); (f) *attendance expectations* (required versus optional attendance, outreach efforts, etc.).

The description of aftercare services provided should include the nature of these parameters. Reporting of such information would be especially useful in understanding conflicting or divergent results.

2. *Degree of Aftercare Involvement:* The research reviewed here indicates a wide range of patient involvement in aftercare. For example, Ritson (1969) reported that 64% of his sample attended 12 or more aftercare sessions compared to Dubourg's (1969) sample where 85% used no aftercare services. This large discrepancy suggests a number of issues important to future reporting. First, the *base rate* of aftercare use in the entire sample should be reported. Second, if the sample is divided into groups (e.g., attenders and nonattenders), the *criteria* used for classification (median split, upper and lower quartiles, completing/not completing treatment contracts) should be reported. Third, if aftercare involvement can be analyzed as both a noncontinuous and continuous variable, this would be advantageous (cf. Walker *et al.*, 1983).

3. *Pretreatment Prognostic Variables:* Costello (1980) and Walker *et al.*, (1983) report that the influence of aftercare is independent of general patient adjustment. Both sets of variables, however, affect treatment outcome. The measurement of pretreatment prognostic variables is critical in the identification of the unique contribution of aftercare in treatment outcome. In addition, a report of the percentage of patients using disulfiram would be useful in the description of a sample.

4. *Directions for Future Research:* It seems clear that aftercare is effective and that its contribution to outcome is independent of general patient prognostic variables. Research is needed that identifies critical elements of successful aftercare treatment. Researchers have begun to turn attention to factors that affect aftercare attendance. The following list illustrates some areas where parametric research is needed.

1. What constitutes the minimum length of inpatient treatment necessary for favorable outcome, when inpatient care is followed by a strong aftercare program?
2. Patient, staffing, and organizational risk factors in aftercare attrition need identification, and effective outreach strategies for patients at risk for attrition can be developed and evaluated.

3. What manipulable primary treatment factors predict aftercare attendance?
4. Are various kinds of aftercare services differentially effective? For example, are there differences between social support and skills training, individual and group therapy, patient only and patient plus spouse or family? Are certain of these approaches more effective with certain types of patients?
5. What are the attendance effects of different scheduling and referral practices?
6. How cost-effective are aftercare enabling factors, such as transportation and prompts or incentives?
7. What are the critical time parameters in aftercare? How quickly must patients enter aftercare and where is the point of diminishing returns?

A final focus for aftercare research is model testing. Models of relapse, such as Litman's (Litman *et al.*, 1979) and Marlatt's (Marlatt & Gordon, 1980), have gained prominence in the last 5 years. Treatment-outcome research is needed to further elaborate these models. Theoretical models can be used to generate hypotheses, develop interventions, and focus data collection (Donovan & Chaney, 1985).

The present review focuses on outpatient aftercare that follows inpatient treatment for alcohol dependence/abuse. The research reviewed suggests that outpatient aftercare plays a useful role in maintaining the gains made during inpatient treatment. This review also highlights the need for further aftercare research. We know little about how to improve aftercare attendance and little about the critical elements of successful aftercare. As recovering alcoholics attempt to find a new social role, aftercare may provide needed social and psychotherapeutic supports for such extensive life changes. In addition, aftercare research could make substantial contributions to our understanding about what former alcohol abusers do in the maintenance phase of their recovery, because little is known about successful coping strategies during maintenance (Prochaska & DiClemente, 1983). Finally, increasing our knowledge about relapse and factors that protect against and shorten the negative impact of relapse would increase our understanding about patient needs during aftercare.

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Index