7

The Transtheoretical Approach

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Impetus for the transtheoretical approach came from several different sources. First and foremost was a discontent with the state of affairs in psychotherapy theory, research, and practice. The narrowness and frequent dogmatism of the proponents of many therapies and the consistent research findings of few differences in outcome between therapy systems encouraged a search for alternatives. Each therapy system focused more on theories of psychopathology and single mechanisms of change than on an exploration of the process of change. Positive regard, authenticity, living in the here and now, confrontation of beliefs, social interest, conditioning, and contingencies are valuable rules for human functioning but are not sufficient to explain psychotherapy change.

In 1977 Prochaska, with the help of his graduate students, embarked on a journey through the various systems of therapy to seek the commonalities across the rigid boundaries of the most popular theories of psychotherapy. *Systems of Psychotherapy: A Transtheoretical Analysis* (Prochaska & Norcross, 2002) represents the culmination of this journey. The map used for the journey indicated that theories of psychotherapy can be summarized by 10 separate processes of change. Although the framework used in this analysis appeared to have face validity, it remained a theoretical construct with no empirical basis. Since that initial work, we and a number of collaborators applied The Transtheoretical Model, expanded its scope, and explored its limitations in studies of intentional change, surveys of practitioners and patients, and in the creation of assessment instruments. This research supported our model and encouraged us to continue the development of what we have called *The Transtheoretical Approach: Crossing the Traditional Boundaries of Therapy* (1984). As our applications expanded beyond office-based psychotherapy of psychiatric disorders in individuals to a proactive treatment of health problems in entire populations, we have expanded the model. *Changing for Good* (Prochaska, Norcross, & DiClemente, 1994) is an apt title for helping

individuals and populations progress across the stages of change.

A final impetus for our work was found in the *zeitgeist* among psychotherapy practitioners and theorists. We heard clearly the pleas of the participants of those who called for a more integrated and comprehensive approach to psychotherapy. Needed was an approach that would take into account the differences in the experiences of therapists and clients. Moreover, in our thinking, an integrative approach should be able to account for how individuals change on their own (unaided by psychotherapy) as well as how individuals change as the result of psychotherapy.

TRANSTHEORETICAL APPROACH

The proliferation of psychotherapy systems reflects the complex, interactive nature of psychotherapy. The daily dilemma facing the clinician is what to do, when, with whom, in what way, with which problem. Both in the research literature and in clinical experience, it has become clear that no one system of therapy addresses adequately all these questions.

From our perspective, an integrative perspective will accomplish the following goals:

1. Preserve the valuable insights of major systems of psychotherapy. Trying to reduce all therapy systems to their least common denominator removes their richness.
2. Provide some practical answers to the questions faced by clinicians. However theoretically elegant it might be, an impractical, overly simplistic, or irrelevant integration will never be adopted.
3. Bring some order to the chaotic diversity in the field of psychotherapy. But merely throwing an assorted collection of techniques into the toy box will only hide the chaos.
4. Offer a researchable alternative to single system and comparative types of research. Explanation without experimentation will not silence the critics of both integration and psychotherapy.
5. Generate a systematic approach: a structure or set of principles and constructs that are comprehensive enough to include the crucial dimensions of psychotherapy and, at the same time, that are adequately flexible to promote collaboration, creativity, and choice.

The transtheoretical approach attempts to meet these goals by means of four crucial dimensions: the processes of change, the stages of change, the pros and cons of change, and the levels of change. Below we review these four dimensions and their crucial interconnections.

Processes of Change

An analysis of the 24 most popular theories of psychotherapy (Prochaska & DiClemente, 1979) yielded the first of the four basic dimensions of the transtheoretical approach: the processes of change. Transtheoretical therapy began with the assumption that integration across a diversity of therapy systems most likely would occur at an intermediate level of analysis, between theory and techniques. Coincidentally, Goldfried (1980, 1982) in his well-known call for a rapprochement, independently suggested that the principles of change were the appropriate starting point at which rapprochement could begin.

The processes of change, then, may best be understood as a middle level of abstraction between the basic theoretical assumptions of a system of psychotherapy and the techniques proposed by the theory. A process of change represents types of activity initiated or experienced by an individual in modifying thinking, behavior, or affect related to a particular problem. Although there are a large number of coping activities, there appear to be a finite set of processes that represent the basic change principles underlying coping activities. In a similar manner, techniques of therapy can be analyzed to see which type of process they would draw upon or promote. Thus, confrontation by the therapist would provide new information, challenge current thinking about the problem, and offer feedback. All these therapist activities

would enable the individual to engage in more accurate information processing. From a transtheoretical perspective, these activities represent the process of change named consciousness raising.

Subsequent modifications of our original formulation through research yielded 10 distinct processes of change: (1) Consciousness Raising; (2) Self-Liberation; (3) Social Liberation; (4) Counterconditioning; (5) Stimulus Control; (6) Self-Reevaluation; (7) Environmental Reevaluation; (8) Contingency Management; (9) Helping Relationships; (10) Dramatic Relief.

Our studies indicate that people in the natural environment generally use these 10 different processes of change to modify problem behaviors. Most major systems of therapy, however, theoretically employ only two or three processes (Prochaska & Norcross, 2002). 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 in terms of a more comprehensive set of processes and be able to apply techniques to engage each process when appropriate.

Stages of Change

A second basic element of the transtheoretical approach is the stages of change, which reflect the temporal and intentional aspects of change. Intentional change is not an all or none phenomenon, but a gradual movement through specific stages (cf. Beitman, 1987; Egan, 1986). Lack of awareness of the stages led some theories of therapy to assume that all clients presenting for therapy are in the same stage of change and are ready for the same change processes.

Studies of various outpatient populations (McConnaughy, DiClemente, Prochaska, & Velicer, 1989; McConnaughy, Prochaska, & Velicer, 1983; DiClemente & Hughes, 1990; Carbonari & DiClemente, 2000) have found a variety of profiles on the Stages of Change Scale. Clearly, all individuals who come to therapy are not at the same stage of change. We have been able to identify five basic stages of change: precontemplation, contemplation, preparation, action, and maintenance.

A stage of change represents both a period of time and a set of tasks needed for movement to the next stage. Though the time spent in each stage may vary, the tasks to be accomplished in order to achieve successful movement to the next stage are assumed to be invariant. In the move from precontemplation to contemplation, an individual must become aware of the problem, make some admission or take ownership of the problem, confront defenses and habitual aspects of the problem that make it difficult to control, and see some of the negative aspects of the problem in order to move to the next stage of seriously contemplating change.

One of the most helpful findings to emerge from our research 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 a client's stage of change is clear, 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 approach, integrative therapists can begin to use change processes much more systematically.

Table 7.1 presents a diagram showing the integration that was revealed from our exploration of the stages and processes of change (Prochaska & DiClemente, 1983; DiClemente, 2003). During precontemplation, individuals use change processes significantly less than people in any other stage. Precontemplators process less information about their problems; spend less time and energy reevaluating themselves; experience fewer emotional reactions to the negative aspects of their problems; are less open with significant others about their problems; and do little to shift their attention or their environment in the direction of overcoming their problems. In therapy these are clients who are labeled resistant.

What can help assist people from precontemplation to contemplation? Table 7.1 suggests several change processes are most helpful.

TABLE 7.1 Processes of Change Emphasized at Particular Stages of Change

Precontemplation	Contemplation	Preparation	Action	Maintenance
Consciousness Raising				
Dramatic Relief				
Environmental Reevaluation				
	Self-Reevaluation			
		Self-Liberation		
			Contingency Management	
			Counterconditioning	
			Stimulus Control	

First, *consciousness-raising* interventions, such as observations, confrontations and interpretations, can help clients become more aware of the causes, consequences, and cures of their problems. To move to the contemplation stage, clients have to become more aware of the negative consequences of their behavior. Often, we have to help clients become more aware of their defenses before they can become more conscious of what they are defending against. Second, the process of *dramatic relief* provides clients with helpful affective experiences (e.g., psychodrama or the Gestalt empty chair), which can raise emotions related to problem behaviors. Life events, such as the disease or death of a friend or lover, can also move precontemplators emotionally.

As clients become increasingly more aware of themselves and the nature of their problems, they are freer to reevaluate themselves both affectively and cognitively. The *self-reevaluation* process includes an assessment of which values clients will try to actualize and which they will let die. The more central problems are to their core values, the more will their reevaluation involve changes in their sense of self. Contemplators also use *environmental reevaluation* to reevaluate the effects their behaviors have on their environments, especially the people they care most about. Addicted individuals, for example, may ask, "How do I think and feel about living in a deteriorating environment that places me and my family in increasing risk of disease, death, poverty and/or imprisonment?"

Movement from precontemplation to contemplation, and movement through the contemplation stage, involves increased use of cognitive, affective, and evaluative processes of change. To better prepare individuals for action, changes are required in how people think and feel about their problem behaviors and how they value their problematic lifestyles.

Preparation indicates a readiness to change in the near future and acquisition of valuable lessons from past change attempts and failures. They are on the verge of taking action and need to set goals and priorities accordingly. They often develop an action plan for how they are going to proceed. In addition, they need to make firm commitments to follow through on the action option they choose. In fact, they are often already engaged in processes that would increase self-regulation and initiate behavior change (DiClemente et al., 1991). People typically begin by taking some small steps toward action.

During the action stage, it is important that clients act from a sense of *self-liberation*. They need to believe that they have the autonomy to change their lives in key ways. Yet, they also need to accept that coercive forces are as much a part of life as is autonomy. Self-liberation is based in part on a sense of self-efficacy (Bandura, 1977, 1982), the belief that one's own efforts play a crucial role in succeeding in the face of difficult situations.

Self-liberation, however, requires more than just an affective and cognitive foundation. Clients must also be effective enough with behavioral processes, such as *counterconditioning* and *stimulus control*, to cope with those external circumstances that can coerce them into relapsing. Therapists can provide training, if

necessary, in behavioral processes to increase the probability that clients will be successful when they do take action.

Just as preparation for action is essential for success, so too is preparation for maintenance. Successful maintenance builds on each of the change processes that has come before and also involves an open assessment of the conditions under which a person is likely to be coerced into relapsing. Clients need to assess the alternatives they have for coping with such coercive conditions without resorting to self-defeating defenses and pathological responses. 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 maintains a sense of self that is highly valued by oneself and at least one significant other.

Pros and Cons of Changing

A third basic element of the transtheoretical model is the pros and cons of changing, which represent the decisional and motivational aspects of change. Our original work on the pros and cons of changing was inspired by Janis and Mann's (1977) model of decision-making. Janis and Mann identified from interviews four types of pros or benefits of decisions: instrumental benefits to self, instrumental benefits to others, approval from self, and approval from others. They also identified four types of cons or costs: instrumental costs to self, instrumental costs to others, disapproval from self, and disapproval from others.

In our work with quantitative questionnaires, we always included items to represent each of these eight constructs. Principle components analyses consistently demonstrated that decision-making could be reduced to two core constructs: the Pros and Cons of changing (Velicer, DiClemente, Prochaska, & Brandenburg, 1985). When weighing important life changes, people do not differentiate benefits to self from those for others nor do they clearly differentiate instrumental benefits from affective or evaluative. They do clearly differentiate the pros from the cons.

Most importantly, there are clear and consistent relationships between the stages of change and the pros and cons of changing across all types of problems. Hall and Rossi (2003) performed a meta-analysis of the relationships of pros and cons and stages of change across 43 behaviors in more than 60,000 people from 9 nations with 7 languages. The problem behaviors included depression, stress, anorexia, alcohol abuse, heroin addiction, cocaine abuse, obesity, smoking, partner abuse, and more. Figure 7.1 demonstrates how clear integration can be even in the face of so many differences.

Across 43 behaviors, the cons of changing outweigh the pros by .7 standard deviations (*SD*) for people in precontemplation. The opposite is true for people in maintenance where the pros of changing are .7 *SD* higher than the cons. The pros of changing are clearly higher in contemplation than in precontemplation. Here the pros and cons are equal, reflecting the profound ambivalence that characterizes the contemplation stage. The pros and cons cross over for people in the preparation stage who are more convinced that the huge efforts needed during the action stage are likely to be worth it. The further along people are in the stages, the more convinced they are that the struggles to change are worthwhile.

Let's briefly apply these change dynamics to people's decision to participate in treatment. We need to keep in mind that the weighing of the pros and cons of changing is not fully conscious or rational. The clear patterns in Figure 7.1 only emerge if standardized scores rather than raw scores are used. If raw scores were used, the pros of changing would outweigh the cons at each stage. It is much easier for people to endorse the pros of getting free from depression, addiction, anorexia, or partner abuse than it is to enhance the cons.

Imagine clients in the precontemplation stage who are prescribed psychotherapy or medication for depression. Their cons of treatment would clearly outweigh the pros. So if they started treatment, they would likely be among the 40% to 50% who would discontinue treatment quickly and prematurely. This

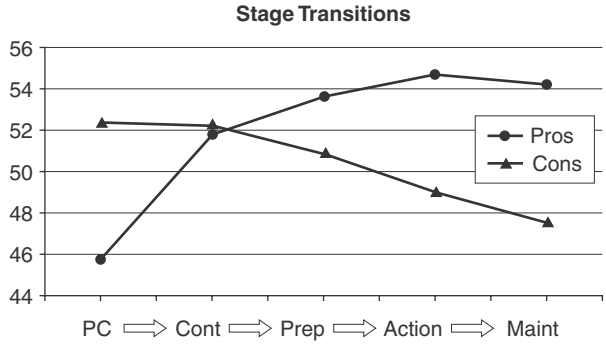


FIGURE 7.1 Integration of Pros and Cons by Stages of Change Across 43 Behaviors

is exactly what we found in predicting more than 90% of premature termination from psychotherapy: those in precontemplation were highly likely to discontinue. Those in the action stage were likely to finish therapy quickly but appropriately, as judged by their therapists (Brogan, Prochaska, & Prochaska, 1999).

Faced with clients who recently took action by quitting an addiction, the clinical plan for most clinicians would be relapse prevention. But would relapse prevention be appropriate for patients in precontemplation? Here, our clinical plan would be dropout prevention. Fortunately, there are a growing number of studies that indicate that by matching processes of change to stage of change, patients in precontemplation can complete a treatment program at the same high rates as those in preparation (e.g., Prochaska, Velicer, Fava, Rossi, & Tsoh, 2001; Prochaska, DiClemente, Velicer, & Rossi, 1993; Prochaska et al., 2001).

Levels of Change

At this point in our analysis, it appears that we are discussing only how to approach a single, well-defined problem. However, as all of us realize, reality is not so accommodating, and human behavior change is not so simple. Although we can isolate certain symptoms and syndromes, these occur in the context of complex, interrelated levels of human functioning. The fourth element of the transtheoretical approach addresses this issue. The Levels of Change represents a hierarchical organization of five distinct but interrelated levels of psychological problems that can be addressed in psychotherapy:

- Symptom/Situational Problems
- Maladaptive Cognitions
- Current Interpersonal Conflicts
- Family/Systems Conflicts
- Intrapersonal Conflicts.

Historically, systems of psychotherapy have attributed psychological problems primarily to one or two levels and focused their interventions on these levels. Behavior therapists have focused on the symptom and situational determinants; cognitive therapists on maladaptive cognitions; family therapists on the family/systems level; and analytic therapists on intrapersonal conflicts. It is crucial to us that both therapists and clients agree as to which level they attribute the problem and at which level or levels they are willing to target as they work to change the problem behavior.

In the transtheoretical approach, we prefer to intervene initially at the symptom/situational level because change tends to occur more quickly at this level, which often represents the primary reason for which the individual entered therapy. The farther down the hierarchy we focus, the farther removed from awareness are the determinants of the problem, and the more historically remote and 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 therapy is likely to be and the greater the resistance of the client (Prochaska & DiClemente, 1984).

These levels, it should be emphasized, are not independent: change at any one level is likely to produce change at other levels. Symptoms often involve intrapersonal conflicts; and maladaptive cognitions often reflect family/system beliefs or rules. In the transtheoretical approach, the complete therapist is prepared to intervene at any of the five levels of change, though the preference is to begin at the highest most contemporary level that clinical assessment and judgment can justify.

Integrating Levels, Stages, and Processes

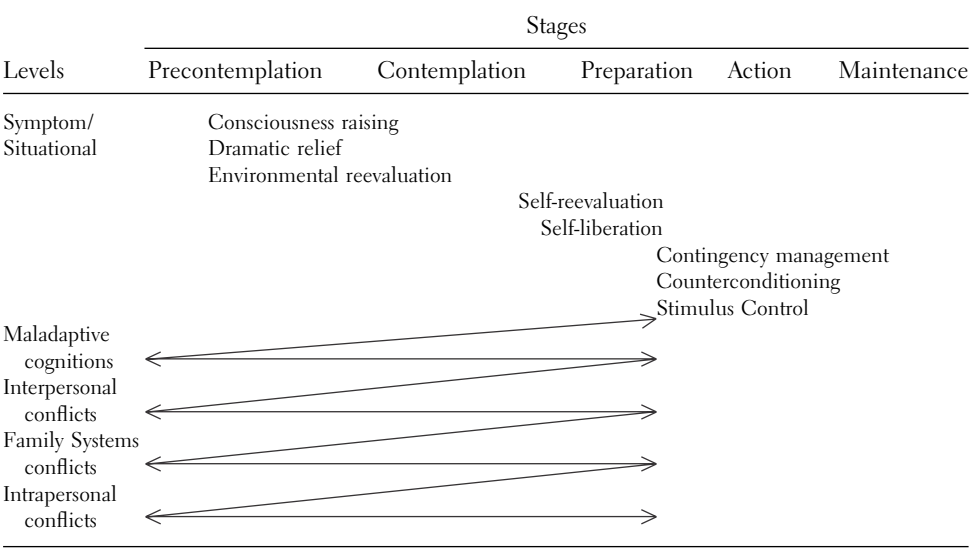
In summary, the transtheoretical approach sees therapeutic integration as the differential application of the processes of change at specific stages of change according to identified problem level. Integrating the levels with the stages and processes of change provides a model for intervening hierarchically and systematically across a broad range of therapeutic content. Table 7.2 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 necessarily 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 7.2 by the arrows moving first across one level and then down to the next level.

The second strategy is the *key level* strategy. If the available evidence points to one key level of causality of a problem and the client can effectively be 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 cases, it is evident that multiple levels are involved as a cause, an effect, or a maintainer of the client's problems. Interventions can be created to effect clients at multiple levels of change in order to establish a maximum impact for change in a synergistic rather than a sequential manner.

TABLE 7.2 Interaction of Levels, Stages, and Processes of Change



Each system of psychotherapy has distinctive strengths within the transtheoretical model. Table 7.3 illustrates where leading systems of therapy fit best within the integrative framework of the transtheoretical approach. The therapy systems included in Table 7.3 have been the most prominent contributors to the transtheoretical approach. Depending on which level and at which stage we are working, different therapy systems will play a more or less prominent role. Behavior therapy, for example, has developed specific interventions at the symptom/situational level for clients who are ready for action. At the maladaptive cognition level, however, Ellis's rational-emotive therapy and Beck's cognitive therapy are most prominent for clients in the contemplation and action stages.

By definition, we have not excluded any therapy systems from the transtheoretical approach. Our approach is an open framework that allows for integration of new and innovative interventions, as well as the inclusion of existing therapy systems that either research or clinical experience suggest are most helpful for clients in particular stages at particular levels of change.

ASSESSMENT AND FORMULATION

Accurate assessments of the clients' stage, level, and processes of change are crucial to the transtheoretical approach. Therapy would be most effective if patient and therapist were matched and working at the same stage and level of change. The joining of the patient and therapist is centered around the structure and process of intentional change. The therapist's role is one of maximizing self-change efforts by facilitating neglected processes, de-emphasizing overused processes, correcting inappropriately applied processes, teaching new processes, and redirecting change efforts to the appropriate stages and levels of change.

Clinical assessment of the stages, levels, and processes requires some modification of the traditional interview. Knowledge of both the attitude toward a problem, as well as the actions taken with regard to it, are needed for assessment of the stages of change. It is important to know that an individual stopped drinking 1 week ago when his wife left him. However, equally important is knowing whether this is the first step in taking significant action toward intentional change of his drinking or an attempt to change his wife's behavior. Another method of assessing the current stage of change is to evaluate both time and energy used in accomplishing the tasks of any prior stage of change. If someone has contemplated changing only casually or for a couple of weeks, for example, then that person would not be prepared to take action.

Assessment of the levels of change requires a clinical interview that addresses each of the levels. In a case of vaginismus, we must know the symptomatic expression and situational de-

TABLE 7.3 Integration of Psychotherapy Systems Within the Transtheoretical Framework

	Stages				
Levels	Precontemplation	Contemplation	Preparation	Action	Maintenance
Symptom/ situational	Motivational interviewing			Behavior therapy Exposure therapy	
Maladaptive cognitions	Adlerian therapy		Rational emotive therapy Cognitive therapy		
Interpersonal conflicts	Sullivanian therapy	Transactional analysis		Interpersonal therapy	
Family/systems conflicts	Strategic therapy	Bowenian therapy		Structural therapy	
Intrapersonal conflicts	Psychoanalytic therapies	Existential therapy	Gestalt therapy		

terminants of the sexual dysfunction but should also explore self-statements, the couple's interpersonal functioning, family-system involvement, and any possible intrapersonal conflicts regarding identity, self-esteem, and so on. In this assessment, it would be important to establish at which level or levels the patient perceives the problem, as well as the levels that the clinician assesses are integrally involved in the problem.

Evaluating the processes of change being employed by the patient can be a rather extensive task. Therapists should explore what the patient is currently doing with regard to the problem, how often these activities are occurring, and what has been done in the past in attempts to overcome the problem. An obsessive patient may be relying heavily on consciousness raising as the most important process while neglecting more action-oriented processes.

In our research, we developed assessment instruments to evaluate the stages, levels, and processes of change. The University of Rhode Island Change Assessment Scale (URICA), or Stages of Change Questionnaire, is a 32-item questionnaire with 4 scores: precontemplation, contemplation, action, and maintenance.

Several forms of a questionnaire to assess the processes of change have also been developed. The questionnaires typically contain two to four questions about activities that would represent each of the processes, and clients are asked to indicate how frequently each activity occurs on a five-point, Likert-type Scale (1 = not at all; 5 = very frequently). Because change process activity is somewhat different for diverse problems, we have attempted to adapt this basic format to a variety of problems, such as alcoholism, overeating, distress, and smoking. These questionnaires have shown remarkable consistency across problem areas (Prochaska & DiClemente, 1986), and principal component analyses have yielded 10 or more consistent components in their use with both clients and therapists. These Processes of Change Scales can be used to assess change processes used before and during therapy to examine how therapy interventions affect the utilization of the processes. Change process activity has been found to relate to therapist theoretical orientation (Prochaska & Norcross, 1983), client activity in the various stages of change, and to be predictive of successful movement through the stages of change.

A Level of Attribution and Change (LAC) Scale contains four or more questions representing each of the five levels of change used in the transtheoretical model. In addition, five other levels are assessed because people do not attribute their problems only to psychosocial sources. The other levels include bad luck, spiritual determinism, biological determinants, insufficient effort, and preferred lifestyle (Norcross, Prochaska, & Hambrecht, 1985; Norcross & Magaletto, 1990).

APPLICABILITY AND STRUCTURE

We are attempting to develop a transtheoretical framework applicable to all clinical problems of psychological origin. The levels of change represent a means of categorizing patient problems that is compatible with *Diagnostic and Statistical Manual of Mental Disorders* (*DSM*) diagnoses but is somewhat more comprehensive, as it includes systems and interpersonal types of problems. Thus, we envision the framework as appropriate for all types of psychopathology and health-related problems. In addition, the framework can be used to categorize treatment delivery systems according to the types of clients and problems they primarily address.

Because we often intervene first at the symptom/situational level, the transtheoretical approach can be used in both a short-term and a long-term format. Ideally, length of therapy, setting, and modality would be determined more by the stage of change, level of problem involvement, and type of change processes employed rather than a predetermined set on the part of the therapist. But, in reality, length of therapy is determined most often by managed care. When possible, a family intervention that brings family members together to make an effective intervention with the patient can be used for a precontemplative alcoholic. Individual and couples therapy can be used to

work through contemplation issues and achieve effective action when working with sexual dysfunctions. Group Therapy can be tailored to patients in all stages of change (Velasquez, Gaddy-Maurer, Crouch, & DiClemente, 2001).

Because our approach concentrates on intentional change, contraindications for the use of the transtheoretical approach would be a setting or problem where intentional change was not the primary goal. In a correctional setting or in managing the self-destructive behavior of a child, control, not intentional change, may be the primary goal. In this context, being aware of the stages and levels of change may nonetheless be desirable. However, external behavioral control appears to be the treatment of choice using the processes of contingency control and stimulus control. Once the immediate threat to self or others has been managed, therapists can work to bring the problem behaviors under intentional self-control rather than external control. In fact, this should be an important secondary goal if treatment or incarceration goals are to be maintained after the individual is released into the community.

In working with intentional change, the transtheoretical approach is quite compatible with the traditional treatment structure of psychotherapy (Connors, Donovan, & DiClemente, 2001). Weekly, hour-long sessions can be used to implement the treatment process. Because we envision psychotherapy as an adjunct to self-change, what occurs between therapy sessions is as important as what happens within therapy sessions. A longer, more intense therapy session with the inclusion of significant others may be needed for an individual in precontemplation to overcome defenses. Less frequent sessions can be used for individuals in contemplation and maintenance. For the former, more time between sessions can allow individuals time to use the processes of consciousness raising and self-reevaluation in the service of decision-making. For the latter, time between sessions can be used to monitor temptation levels and encounter any obstacles to continued action or maintenance that occur less frequently. Thus, in effect, therapy sessions become booster sessions.

The goal of our clinical and research work on intentional change is to identify the variables that are most effective in helping clients move through the stages of change with regard to a particular problem. In this context, *treatment selection* is too generic a term. The more specific issue is to identify which process would be most effective in helping to move an individual from one particular stage of change to the next with regard to a certain level or levels of change. The decision to use a particular process is multiply determined. Rather than stating a priori that counterconditioning is the treatment of choice for phobic problems, we prefer to analyze first the stages and levels of change before making prescriptions.

We realize that this approach places a sizable burden on the therapist. However, in the case of psychotherapy, we believe that simplicity can be a source of mediocrity and confusion. We have found, for example, that insufficient use of consciousness raising in the contemplation stage forces individuals to rely excessively on self-liberation or willpower in their efforts to change and opens the way to what Janis and Mann (1977) have called "post-decisional regret." The overuse of self-reevaluation during maintenance, on the other hand, is predictive of relapse (DiClemente & Prochaska, 1985). Thus, matching patients with processes requires both a general knowledge of the stages, processes and levels of change as well as specific knowledge about individual clients and what they have been doing to effect changes in their lives.

Though matching is a complex process that has not yet been adequately researched, mismatches from our perspective are more readily apparent. A therapist committed to consciousness raising and exploration of all the levels of change prior to taking action will frustrate a client ready to take action at the symptomatic level. An action-oriented therapist will be constantly disappointed by precontemplative clients who drop out quickly or fail to implement the suggested behavioral techniques. The family therapist, who insists that change take place at the family systems level with the whole family present, may be unable to engage a system with a member in precontemplation.

Treatment matching should not simply focus on disorders, which amounts to a continuation of the medical model. From our perspective, the problem with using this model in psychotherapy is it is not applicable to intentional change. Even with physical problems that require some health behavior modification, the medical model has been problematic. Medication compliance, diet control, and exercise all require intentional change and are extremely difficult problems for a medical model that relies on processes of change like surgery, which are invasive, externally applied procedures. Disorder is an important concept for developing a taxonomy that enables us to bring together certain symptoms and syndromes for classification. Though this information is important in understanding a problem, knowledge of a disorder by itself has limited value in prescribing therapy interventions (Beutler, 1983).

THERAPY RELATIONSHIP

Although psychotherapists have not struggled with all the particular problems faced by different clients, all therapists have had some experience with the processes of change. This is the common experiential ground that forms the basis of the relationship between therapist and client. In general, the therapist is seen as the expert on change; not in having all the answers, but in being aware of the crucial dimensions of change and being able to offer assistance in this regard. Clients have potential resources as self-changers that must be used in order to effect a change. In fact, clients need to shoulder much of the burden of change and look to the therapist for consultation on how to conceptualize the problem and ways to free themselves to move from one stage to another.

As with any interactive endeavor, rapport must be built to accomplish the work. However, the type of relationship will vary with the stage and level of change being addressed. Initiation of therapy with a precontemplation client, for example, takes on a different flavor. A client's unwillingness to see or own a problem is not viewed as resisting the therapist or being uncooperative but as resisting change. Therapists must become aware of how frightening and anxiety provoking the prospect of change can be. With this shift in perspective, the therapist can take on the role of a concerned advisor or nurturing parent who can help the individual explore the problem (DiClemente, 1991). The therapist becomes an ally rather than another person attempting to coerce change.

For a person contemplating change, the therapist should take care not to be too impatient. Contemplation can be a lengthy, frustrating stage of change. Though therapists should not support chronic contemplation, they must also avoid blame, guilt, and premature action. In order to make a decision to change a problem behavior, individuals must see that change is possible and in their own best interests. The therapist, like a Socratic teacher, can challenge clients by making explicit the pros and cons of both the problem behavior and the change. Support, understanding, and a relationship that would enable the therapist to make explicit the fears and concerns of the client is needed during this time.

During the action stage, the therapist can assume a more formal teaching relationship. During these stages, the client is likely to idealize the therapist. When initiating action, the client needs the support of a helping relationship and may need to lean on the confidence of the therapist rather than a self-generated sense of efficacy. Initial efforts are likely to be tentative, and seeing the therapist as the expert on change can be comforting. However, as soon as is feasible, it is important to have the client develop more self-confidence and independence from the therapist. For therapists who need to be needed, this can pose a difficult problem.

In the maintenance stage, the therapist becomes an occasional consultant—preventing relapse, consolidating gains, and identifying potential trouble spots. Letting go and helping the client assume ownership of the change are the final tasks of the therapy relationship.

PROCESSES OF CHANGE

As already noted, transtheoretical approach identified the processes that are most impor-

tant in producing change at different stages. The mechanisms that move someone from precontemplation to contemplation are different from the processes that move someone from preparation to action (Velasquez, Gaddy-Maurer, Crouch, & DiClemente, 2001).

The important issue here is that intentional change, such as occurs in psychotherapy, 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, clients can feel coerced by forces not of their choosing and will likely revert to previous patterns once the coercion is removed.

CASE EXAMPLE

By its very nature, an integrative therapy cannot be illustrated by a single case. Rather, it would take a long series of cases to reflect the full range of stages, levels, and processes of change used with a diversity of clients. Thus, if the reader were looking over the shoulder of a transtheoretical therapist, the therapist's interventions would vary tremendously depending on the needs of particular clients. Nevertheless, we will try to illustrate some of the richness of our approach through the treatment of a psychologically distressed client, partially with the context of couples therapy.

Tom was a 50-year-old schoolteacher who was referred for marital therapy by a colleague who had been working with Tom's wife, Barbara, in individual therapy for about a year. Barbara's therapist did not believe that Tom would stay in treatment for more than three sessions, even though he was quite distressed. Barbara's therapist actually thought that Tom needed individual therapy, but he agreed to go to therapy only if they went as a couple.

Tom and Barbara were seen together in the first session to assess their problems and their ability to work together at the interpersonal level. Usually, we begin therapy by talking about the problems that bring people to therapy, but the first problem at hand in this case was Tom's resistance to therapy. Confronting the problem directly communicates to the client that we are going to try to deal with problems in a straightforward and direct manner. It communicates that the therapist cares about the client's resistance and the client need not be defensive about it. It also communicates the therapist's hope that maybe there is something the client and/or therapist can do to make it easier for the client to be a more willing participant. Many spouses have said that their partners would never come to therapy, and if they did, they wouldn't stay. And yet, we have found clinically that almost all reluctant partners would come in for at least one session if the therapist asked, and most would continue in therapy.

Tom said, "I don't believe therapy is worthwhile. My wife has been going to therapy for a year, and she's still always lying and spending money like it's going out of style."

"Sounds like you might be angry at her therapist," the therapist responded.

"You're damn right! He just feeds into her wasting money," said Tom.

"Have you let him know you're angry?" the therapist asked.

"No, he doesn't want to talk to me," Tom said.

"Would you like me to let him know you're angry?" the therapist asked.

"Yeah, I would appreciate that," said Tom.

So we're off and running. Tom's resistance to therapy is being addressed, if only at the situational level. But at least he does not have to be defensive about his defensiveness. He may be able to experience the therapist as someone who cares about his defensiveness and is trying to understand it. He may, to his surprise, experience the therapist as being helpful in dealing both with his resistance and with his anger.

At the same time, the therapist has to be concerned with Barbara experiencing the therapist as Tom's ally. The therapist could have addressed Tom's anger toward his wife for what he labels "lying and wasting money." But this would have

risked putting Barbara on the defensive, and if she counterattacked, the couple could slip into the blame game that involves partners quickly shifting from the offensive to the defensive position.

"It must be hard to have your husband accusing you of lying and wasting money." I said this to Barbara, knowing I was still risking the blame game but feeling that I wanted to empathize with her as well as with Tom. I also wanted to communicate that I appreciated that there are two sides to every marital conflict, and that her perspective was as important as Tom's.

These opening segments of therapy indicate that treatment usually begins immediately. There usually is not a formal assessment period, although assessment occurs right from the start. In the course of the first two sessions, the following information was shared. Tom's mood was usually depressed; he couldn't relax; he was having trouble sleeping; he was irritable and often verbally abusive; he felt lousy about himself; and he was having trouble relating to his students, his colleagues, and the customers that sought his services in his after-school job. Tom's distress increased whenever he approached Barbara to be sexual and she refused, which happened at least once a day.

Barbara was really angry at Tom. She was angry about his constant accusations about her lying, spending money behind his back, and having affairs when she went out on Friday night with her female friends. He would check the phone bill to see whom she had been calling; he would open mail addressed to her to see what money she owed; and he would sometimes follow her out with her friends to see if she was seeing other men. How could she want to make love when they were so embroiled in a game of "cops and robbers." Tom had coerced her into having sexual intercourse a couple of times, and she resented it.

Barbara also resented Tom's preoccupation with money. If he wasn't preoccupied about her spending money, he was preoccupied with his compulsive gambling. Tom denied that his gambling was no longer a problem. If they lost everything on his gambling, it would come to $1,000 a year, and between the two of them, they were making more than $80,000.

What is a psychotherapist to believe? At worst, we have a compulsive gambler and an obsessive and possessive lover married to a compulsive liar and an impulsive spender. We may have classic personality disorders who have trouble managing their own lives, let alone managing marriage effectively. Personality disorders often do not stay in therapy or they stay forever.

From the transtheoretical perspective, it appeared that Tom was in the precontemplation stage in regard to most of his problems. The exception was his gambling, which Tom had changed on his own to relatively controlled gambling. Barbara, on the other hand, was prepared to take action. She had been contemplating changes in her marriage for the past year in therapy. The problem was that the action she most likely was going to take—although she did not say so directly—was divorce. Unfortunately, few couples present asking for divorce therapy. Most couples present asking for marital therapy. Assessing whether a couple is likely to be a divorce case rather than a marital case can make a considerable difference in therapeutic outcomes. Elsewhere, we present in detail the subtle and not so subtle signs of impending divorce that we use to assess a couple's case (Prochaska & DiClemente, 1984).

In the current case, some of the obvious signs included the fact that Barbara had been contemplating divorce for some time. More importantly, she had told some of her family and friends that she was contemplating a divorce. When people go public with their contemplations, they are moving much closer to action. Barbara had also lost her excess weight and engaged in other self-improvement activities. Making oneself more marketable is preparatory action for people heading for divorce. Barbara had also been in individual treatment for a year, with the theme being increased independence and autonomy.

Tom, on the other hand, was psychologically distressed. He had not been contemplating divorce, although he knew that Barbara was. On the contrary, he was obsessed with trying to control Barbara's actions to prevent losing her. Tom was resistant to change, as if he knew the ultimate change in their marriage was going to be divorce. He was also distressed by the prospect of having the drastic change of divorce imposed upon him. The imposition of change is one of the most common causes of psychological distress.

Psychological distress caused by imposed change is likely to lead to people resisting change. Change can be experienced as a threat not an opportunity, and people may defend against any awareness of needs to change as they dig more deeply into the precontemplation stage. Moreover, they have trouble contemplating change as they become cognitively impaired by distress (Mellinger, Balte, Uhlenhuth, Cisin, Manheimer, & Rickles, 1983) and have trouble making decisions and trouble taking action, even action that could lead to self enhancement.

What do we do when we have spouses in two different stages of change, which is common in couples therapy? What do we do when we have spouses in two different stages of divorce, which is even more common in divorce therapy?

The most common pattern is to have one spouse in precontemplation and one who is ready for action, like Tom and Barbara. When we are treating psychological distress precipitated by an impending and imposed divorce, we need to slow down the spouse who is ready for action and speed up the spouse who is resisting change. Barbara was willing to spend some time trying to resolve their interpersonal problems. The psychotherapist made it clear that they were going to work at the interpersonal level to improve their relationship whether they stayed together or got divorced. Either way, they were going to have a long-term relationship, in part because they shared two lovely daughters.

The couple needed to become more conscious of the interactive nature of their conflicts. Tom and Barbara agreed that their struggles over control produced the most conflict. The therapist presented feedback based on his assessment of what was transpiring at the interpersonal level. Tom's actions appeared to be based on his intention to keep the marriage going, and his actions were based on values of closeness and togetherness. Barbara, on the other hand, had developed an increased need for independence; her actions were based on values of individualness and separateness. The problem was the more Tom tried to control their being together, the more Barbara felt a need to be apart. Barbara agreed. Conversely, the more Barbara pulled apart, the more Tom felt the need to control her to keep them together. Tom agreed. The needs and values that Tom was expressing set off opposite needs and values in Barbara. The blame game is based on our preference for linear causality—she acts and I react. Circular causality, on the other hand, can help couples appreciate that they both act and react—that their behavior is both a cause and an effect of their ongoing relationship (cf. Wachtel, Kruls, & McKinney, this volume).

Tom and Barbara were becoming more conscious of what they personally contributed to their control struggles. They were going beyond the blame game. They were also able to reevaluate their partner's behavior to some extent. Togetherness is somewhat more positive than dependence. Separateness is something different from selfishness. With the help of the therapist's mini-lectures based on his experience with family life education (Prochaska & Prochaska, 1982), Tom and Barbara became aware that a more mature relationship includes both togetherness and separateness. They were taught that individuals mature in their relationships from dependence to independence to interdependence, with interdependence being the caring and sharing of two independent individuals.

The problem was that Tom was entirely in charge of togetherness and Barbara was only standing for separateness. They were, however, willing to risk acting differently. The therapist recommended that Tom be in charge of separate activities and Barbara be in control of shared activities. Tom was going to liberate himself from a vicious circle by acting more like Barbara and vice versa. The longer they could continue such reversal of roles, the more they would condition themselves to respond with new alternatives.

This action worked, for a while. Tom took charge of recording on the calendar Barbara's nights out with her friends and his golfing dates. Barbara recorded their dates together on the calendar and was in charge of initiating shared activities. They were communicating better and feeling better. Tom's chief complaint was that Barbara was not initiating sex.

Because they were doing better, the therapist recommended that gradual involvement in sexual relating could help them overcome anxieties about sexual performance. They had been avoiding sex for quite a while, and the first steps of sensate focusing (Masters & Johnson, 1970) might

give Barbara, in particular, a chance to deal with her feelings about gradually getting close again. They agreed with the idea and agreed that they would start with light massage.

Tom came alone to the next session. "Barbara is not coming back again. She said she knows she just wants out of the relationship." The therapist probably had made a mistake in too quickly encouraging the couple to move to action in their sexual relationship. After the session, the therapist called Barbara and expressed his concern that he might have made a mistake and inquired if she would be willing to come in to talk about how she was feeling.

Barbara came in for a couple of sessions. She said that the only thing the therapist's recommendation had done was force her to realize that she just did not want to be close to Tom anymore. The fact that their relationship had improved made her even more aware that she just did not feel the same about Tom. She still was concerned that Tom wouldn't be able to handle a divorce, but she wanted out.

Tom was distressed but not devastated. Fortunately, psychotherapy had become a place where he could be open about his feelings. He was not all alone as he had feared. He allowed himself to relive the memories of losing his first love. He had felt more rejected then than he felt now. He had so many regrets about not having tried harder in that relationship. But this time he had been trying. Back then, he withdrew from everyone. He stayed in his room. He wasn't able to eat. He couldn't work. His parents, were concerned but they left him alone.

No wonder he avoided contemplating divorce. He never, ever wanted to go through such emotional hell again. He didn't think he would make it. He thought he couldn't handle another rejection, but now realized he didn't have to go through it alone this time. Not only was therapy available, but he had other helping relationships. But now, Tom could talk more openly and rely more on the social supports in his natural environment.

The therapist encouraged Tom to explore fully why that rejection as a young man had been so distressing. Eventually, Tom focused on the rejection he had experienced from his parents. When Tom was about 7 or 8, his parents had lost their business and did not have the financial resources to care for him. Tom had gone to live with an aunt and uncle who had no children. They weren't particularly loving, but they did give him a lot of money. After a couple of years, Tom's parents were on their feet again and were able to have him back. Tom recalled not wanting to go back and not wanting to give up all that money. He had forgotten how rejected he had felt as a child. The therapist suggested that perhaps he had substituted the money for the love he had lost. Yes, maybe that was why money had come to mean so much to him. Gambling was fun but he also felt more lovable when he won. And when he lost? Well, maybe he was getting used to losing love.

After that early separation, Tom had closed off his relationship with his parents or maybe it had always been too closed. The therapist took a lead from Bowen (1978) and encouraged Tom to act on his emerging feelings. He encouraged Tom to talk to each of his parents individually about how they had experienced that time in their lives.

Tom's mother was especially pleased with the opportunity to talk. She had never told Tom how much it had hurt her to give him up and how much it hurt when he didn't want to return home. She felt that Tom was always angry at her after that. Tom began to realize that his hurt and his anger had caused him to close off close contact with others. But now Tom was risking new ways of relating—with his parents, his daughters, and his friends. He was communicating more spontaneously and openly and felt more sensitive to the needs of others. He was asserting himself more at work without having to get angry.

Tom was making many self changes after a total of 22 therapy sessions but was puzzled by his reluctance to take action and move out and get a place of his own. He told himself that it was because he wanted to be close to his daughters, but he knew he was really afraid that Barbara might turn them against him. He also realized that he was still concerned about money and didn't want to spend the money on an apartment if he could help it. Furthermore, staying in the house was a safe way of expressing his resentment at Barbara for rejecting him. At a deeper level, Tom became aware that leaving his home stirred up painful feelings about when he had to leave his family's

home. And at an intrapersonal level, Tom became aware that he really did have unresolved dependency problems. He had, for example, never lived alone.

The therapist helped Tom to appreciate that moving out and living on his own was a maximum impact action that could facilitate further progress at each level of his life. At a situational level, Tom would be moving into a new environment that would reflect the new era of his life, free from all the reminders that elicited so many painful thoughts and feelings. At a cognitive level, Tom would be challenging his "awfulizing" tendencies that added to his distress, such as his belief that it was awful that he was the one to have to move when he didn't want the divorce in the first place (cf. Ellis, 1973).

At the interpersonal level, Tom could further let go of his desire to remain in control of his relationship with Barbara. As long as Barbara wanted him out and he refused to leave, Tom felt in control. But he could let go of this need to control and accept that Barbara was getting the house. At the family level, Tom was very tempted to move back with his parents. Moving on his own, however, would enable Tom to separate further from his parents without rejection or resentment. And at the intrapersonal level, Tom could experience himself as becoming more fully adult. He would be moving beyond dependence to independence and would be better preparing himself for an interdependent relationship.

After a couple of months of encouragement in therapy and additional harassment at home, Tom was ready to leave the nest. This was a major move in his life. It evoked a variety of countertransference feelings in his psychotherapist, who felt like a parent watching his 50-year-old son going off to college. Would he be distressed by loneliness and homesickness or would he spread his wings and fly? Needless to say, Tom soared. He felt more fully connected to life than he had ever known. For the first time in his life he began to appreciate activities like concerts and plays. He asserted himself and found women responding rather than rejecting. Certainly he felt lonely at times, but never alone. He even felt a spiritual awakening for which his empiricist therapist takes no credit whatsoever.

Therapy was already terminating when Tom met a special woman. Ironically, she too had just come out into the world in the past few years. She had hidden in a nunnery while Tom had hidden within himself and his home. She had had several years of psychotherapy struggling with intrapersonal conflicts both before and after leaving the nunnery; Tom was terminating after 9 months of therapy.

Tom had made a remarkable transformation from a distressed and defensive individual preoccupied with a small portion of his existence to a growth-oriented person able to function more freely and fully at each level of life. What process or processes account for such rewarding changes? First, Tom had been facing turning 50, and he probably had the benefit of developmental changes urging him on to a new stage of life. Second, he faced dramatic but distressing environmental changes being imposed upon him. Third, psychotherapy had helped Tom shift from a resentful and resistant position in the precontemplation stage to becoming more conscious of and committed to the self-liberating qualities of intentional change. And fourth, Tom, the gambler, would also attribute some of his good fortune to lady luck. The last time the therapist talked to Tom, not only was he doing well with his woman friend, his family, his daughters, his friends, and himself; he also had just won $750 in the lottery 2 weeks in a row. Tom was on a roll!

EMPIRICAL RESEARCH

Considerable care has been taken to operationalize and validate each of the core constructs of the transtheoretical approach. The stages of change, for example, have been identified and validated with a questionnaire applied to a range of patients entering psychotherapy (McConnaughy et al., 1983; 1989; Brogan, Prochaska, & Prochaska, 1999), alcoholics entering treatment (DiClemente & Hughes, 1990), and obese patients entering behavior therapy (Prochaska, Norcross, Fowler, Follick, & Abrams, 1992). Brief algorithms have been used to validate stages of change for a broad range

of problems (see Prochaska & DiClemente, 1992). The processes of change also have been replicated and validated across a broad range of problems. These include smoking (Prochaska & DiClemente, 1983; Prochaska, Velicer, DiClemente, & Fava, 1988), psychological distress (Prochaska & DiClemente, 1985; Prochaska & Norcross, 1983), weight control (Prochaska & DiClemente, 1985; Prochaska, Norcross, Fowler, Follick, & Abrams, 1992), alcoholism (Snow, Prochaska, & Rossi, 1992), cocaine abuse (Rosenbloom, 1991), heroin abuse (Tejero, Trujols, Hernandez, Perez de los Cobos, & Casas, 1991), exercise acquisition (Marcus, Rossi, Selby, & Niaura, 1992), and a mixture of mental health disorders. The levels of change have received less empirical attention but have been replicated and validated with such problems as alcohol abuse (Begin, 1988), cocaine abuse (Rosenbloom, 1991), smoking (Norcross, Prochaska, Guadagnoli, & DiClemente, 1984), and a mixture of *DSM* disorders (Penny, 1987; Brogan et al., 1999).

The systematic relationship between the stages and processes of change has been well supported across problem areas. In fact, a recent meta-analysis of 47 cross-sectional studies (Rosen, 2000) examining the relation between the stages and processes found moderate to large effect signs: .70 for variation in cognitive-affective processes by stage and .80 for variation in behavioral processes by stage.

Another line of research has examined the stages and processes of change in substance abuse treatment (DiClemente, 2003). Individuals entering alcohol and substance abuse treatment have very different profiles on the stages of change (Carney & Kivlahan, 1995; DiClemente & Hughes, 1990). Using a motivational readiness score based on the second-order factor structure of the stages of change scales, Project MATCH investigators found that baseline readiness scores were one of the strongest predictors of posttreatment drinking outcomes for the 952 outpatients in this large multisite alcoholism treatment matching trial (DiClemente, Carbonari, Zweben, Morrell, & Lee, 2001; DiClemente, Carroll, Miller, Connors, & Donovan, 2003; Project Match, 1997, 1998). Baseline motivation predicted outcomes when treatment type did not. Moreover, there was a clear relationship between clients' initial motivation to change and their acknowledgement of consequences and problems with drinking. Client motivation at baseline also related to how individuals engaged with the therapist (working alliance) and how active they were in using the processes of change and other external resources to modify their drinking (DiClemente, Carroll, Miller, Connors, & Donovan, 2003). Finally, indicators of the process of intentional behavioral change (experiential and behavioral coping activities, readiness to change, and self-efficacy) varied during the course of treatment and were significantly related to the changes in drinking behavior throughout the 1-year follow-up period (Carbonari & DiClemente, 2000).

The importance of process of change is highlighted by the fact that individuals who attended different treatments in Project MATCH reported remarkably similar process activity both during treatment and at the posttreatment assessment. Process of change activities during treatment, particularly behavioral process activity, predicted drinking outcomes (Carbonari & DiClemente, 2000). These results indicate that outcomes are much more a function of what clients do than what therapists do.

In a longitudinal analysis of subjects who progressed, regressed, and remained the same during a 6-month period, discriminant functions predicted movement for the groups representing the precontemplation, contemplation, action, and relapse stages. Predictors included the 10 processes, pros and cons, and measures of self-efficacy and temptation, all variables that are open to change (Prochaska, DiClemente, Velicer, Ginpil, & Norcross, 1985). When more static variables such as age, education, smoking history, withdrawal symptoms, reasons for smoking, and health problems were used as predictors, the results were much less significant (Wilcox, Prochaska, Velicer, & DiClemente, 1985). The point is that dynamic measures are much better predictors of change than are the more commonly used static measures, like client characteristics.

At least five longitudinal studies have found that the amount of progress individuals make after intervention is directly related to the stage they are in prior to intervention. During an 18-month follow-up, smokers who were in the precontemplation stage initially were least likely to progress to the action or maintenance stages following intervention. Those in the contemplation stage were more likely to make such progress, and those in the preparation stage made the most progress (DiClemente et al., 1991; Prochaska, Velicer, Prochaska, & Johnson, 2004). In an intervention study with smokers with heart disease, Ockene and her colleagues (1989) found that 22% of the smokers who were in the precontemplation stage prior to treatment were not smoking at a 6-month follow-up. Of those who were in the contemplation stage, 44% were not smoking at 6 months and approximately 80% of those in preparation or in action were not smoking at 6 months. With a household sample of Mexican Americans in Texas who smoked, Gottlieb, Galavotti, McCuan, and McAlister (1990) replicated most of the cross-sectional relationships between stages and processes and other dynamic variables like decisional balance and self-efficacy. Furthermore, during a 12- to 18-month follow-up, they found that smokers who were originally in the contemplation stage progressed to the action and/or maintenance stages four times as frequently as smokers who were originally in the precontemplation stage. The amount of progress head-injury adults made in rehabilitation was directly related to their stage of change prior to treatment (Lam, McMahon, Priddy, & Gehred-Schultz, 1988).

Dropout is major problem for psychotherapy patients in general and for addictive patients in particular. In some studies for addictive problems, as many as 80% of participants drop out (Prochaska et al., 1992). In a study of psychotherapy dropouts using such variables as socio-economic status (SES), age, and gender, we were unable to predict the 40% of patients who terminated prematurely. Using the stages-of-change questionnaire, however, we were able to predict these dropouts with 93% accuracy (Brogan, Prochaska, & Prochaska, 1999). In a cognitive-behavior therapy intervention for weight control, the stages and processes of clients early in therapy were the best predictors of both premature termination and progress at follow-up (Prochaska, Norcross, Fowler, Follick, & Abrams, 1992).

During the past dozen years, we have conducted a series of clinical trials from a transtheoretical perspective. In our first clinical trial, we randomly assigned 770 smokers in Rhode Island by stage to one of four treatment conditions: standardized, individualized, interactive, and personalized (Prochaska, DiClemente, Velicer, & Rossi, 1993). The standardized treatment involved the best self-help program currently available; namely, the American Lung Association's action and maintenance manuals. The individualized self-help manuals were individualized to the stage of change of each participant. The interactive condition (ITT) involved computer-generated progress reports that included feedback about the participant's stage of change, decisional balance measures regarding the pros and cons of quitting smoking (Velicer, DiClemente, Prochaska, & Brandenburg, 1985), up to six processes of change that were being underutilized, overutilized, or utilized appropriately (Prochaska, Velicer, DiClemente, & Fava, 1988), temptations and self-efficacy across the most important smoking situations (Velicer, DiClemente, Rossi, & Prochaska, 1990), and techniques for coping with specific situations. The personalized condition (PITT) included the stage-based manuals, computer reports, and four counselor calls. The calls were proactive, initiated by the counselors rather than reacting to calls from the participants. Except for one call, counselors had the computer reports to help counsel clients about changes they were making on key process variables.

The results were revealing. The two manual conditions basically replicated each other through the 12-month follow-up. At the 18-month follow-up, however, the individualized transtheoretical manuals (TTT) (18.5% abstained) appeared to be performing better than the standardized (ALA) manuals (11%). The interactive (ITT) computer reports outperformed both manual conditions at each of the four follow-ups. The computer reports pro-

duced more than twice as much quitting at each follow-up than did the gold standard ALA manual (e.g., 25.2% vs. 11% at 18 months). The personalized counselor call condition about doubled the quit rates of the two manual conditions up to the 12-month follow-up. By the 18-month follow-up, effects from the PITT condition appeared to have plateaued (18%). At 18-months, the PITT condition only outperformed the ALA manuals, whereas the transtheoretical manual condition seemed to have caught up with the counselor call condition.

These results suggest that interactive computer feedback on stage-related variables has the potential to outperform the best self-help program currently available. These results indicate that the field may now have self-help programs that are appropriate and effective for the vast majority of smokers who are not prepared to take action. Providing smokers interactive feedback about their stages of change, decisional balance, processes of change, self-efficacy, and temptation levels in crucial smoking situations can produce greater success than just providing the best self-help manuals currently available.

The next test was to demonstrate the efficacy of the expert system when applied to an entire population recruited proactively. With more than 80% of 5,170 smokers participating and fewer than 20% in the preparation stage, we demonstrated significant benefit of the expert system at each 6-month follow-up (Prochaska, Velicer, Fava, Rossi, & Tsoh, 2001). Furthermore, the advantages over proactive assessment alone increased at each follow-up for the full 2 years assessed. The implications here are that expert system interventions in a population can continue to demonstrate benefits long after the intervention has ended.

In the next clinical trial, we showed remarkable replication of the expert system's efficacy in an HMO population of 4,000 smokers with 85% participation (Prochaska et al., 2001). In the first population-based study, the expert system was 34% more effective than assessment alone; in the second it was 31% more effective. Though working on a population basis, we were able to produce the success normally found only in intense clinic-based programs with low participation rates of much more selected samples of smokers. The implication is that, once expert systems are developed and show effectiveness with one population, they can be transferred at much lower cost and produce replicable changes in new populations.

The next challenge was the extension of the assessment-based expert systems to provide treatments for populations with alternative problems, like stress. With a national sample suffering from stress symptoms, we proactively recruited more than 70% ($N = 1,085$) to a single behavior change program (Evers, Johnson, Padula, Prochaska, & Prochaska, 2002). The Transtheoretical Model (TTM) program involved assessments on each of the TTM constructs to derive three expert system tailored communications during 6 months and a stage-based self-help manual. At the 18-month follow-up, the TTM group had more than 60% of the at-risk sample reaching action or maintenance compared to 42% for the control group. Compared to studies on smoking cessation, this study produced much more effective action at 6 months in the TTM group, and this outcome was maintained during the next 12 months.

In recent benchmarking research, we have been trying to create enhancements to our expert system to produce even greater outcomes. In the first enhancement in our HMO population of smokers, we added a personal handheld computer designed to bring the behavior under stimulus control (Prochaska et al., 2001). This commercially successful innovation was an action-oriented intervention that did not enhance our expert system program on a population basis. In fact, our expert system alone was twice as effective as the system plus the enhancement. There are two major implications here: (1) more is not necessarily better; and (2) providing interventions that are mismatched to stage can make outcomes markedly worse.

Another important aim of the HMO project was to assess whether interactive interventions (computer-generated expert systems) are more effective than noninteractive communications (self-help manuals) when controlling for number of intervention contacts (Velicer, Prochaska, Fava, Laforge, & Rossi, 1999). The in-

teractive programs require assessments at each intervention point and therefore are more costly and demanding than noninteractive interventions. It is essential, therefore, that such assessment-driven interventions be more effective to justify the additional costs and demands. At 6, 12, and 18 months for groups of smokers receiving 1, 2, 3, or 6 interactive versus noninteractive contacts, the interactive interventions (expert system) outperformed the noninteractive manuals in all four comparisons. In three of the comparisons (1, 2, and 3), the differences at 18 months were at least five percentage points, a difference between treatment conditions assumed to be clinically significant. Those results clearly support the hypothesis that interactive interventions will outperform the same number of noninteractive interventions.

Those results support our assumption that the most powerful behavior change programs for entire populations will be interactive. In the reactive clinical literature, it is clear that interactive interventions like behavioral counseling produce greater long-term abstinence rates (20% to 30%) than do noninteractive interventions such as self-help manuals (10% to 20%). It should be kept in mind that these traditional action-oriented programs were implicitly or explicitly recruiting for populations in the preparation stage. The implications are clear. Providing assessment-driven interactive interventions via computers are likely to produce greater outcomes than relying on noninteractive communications, such as newsletters, media or self-help manuals.

In one of our recent clinical trials we actively recruited populations of patients with multiple health problems. Applying the best practices of a stage-based multiple behavior manual and three assessment-driven expert system feedback reports, we proactively intervened on a population of parents of teens who were participating in parallel projects at school (Prochaska et al., 2002). First, the study had to demonstrate that it could proactively recruit a high percentage of parents if impacts were to be high. This study recruited 83.6% ($N = 2,460$) of the available parents. The treatment group received up to three expert system reports at 0, 6, and 12 months. At 24-month follow-up, the smoking cessation rate was significantly greater in the treatment group (22% abstinent) than the controls (17%). The parents did even better on diet with 33.5% progressing to the action or maintenance stage and going from high-fat to low-fat diets compared to 25.9% of the controls. With sun exposure, 29.7% of the at-risk parents had reached action or maintenance stages compared to 18.1% of the controls.

With a population of 5,545 patients from primary care practices, we proactively recruited 65% for a multiple behavior change project. This represents one of our lowest recruitment rates and appeared to be due to patient concerns that project leaders had received their names and phone numbers from their managed care company, which many did not trust. With this population, mammography screening was also targeted, but most of the women over 50 were in the action or maintenance stages, so relapse prevention was targeted. Of the targeted behaviors, significant treatment effects were found for all four. At 24 months, the smoking cessation rate for the treatment group was 25.4% compared to 18% for the controls. With diet, 28.8% of the treatment group had progressed from high-fat to low-fat diets compared to 19.5% of the control group (Redding et al., 2002). With sun exposure, 23.4% of the treatment groups were in action or maintenance compared to 14.4% of the controls. And, with mammography screening, twice as many in the control had relapsed (6%) compared to the treatment group (3%).

With a population of patients in Canada with Type 1 or Type 2 diabetes, we proactively recruited 1,040 patients to a multiple behavior change program for diabetes self-management (Jones, Edwards, Vallis, Ruggiero, Rossi, Rossi et al., 2001, 2003). With this population, self-monitoring for blood glucose (SMBG), diet, and smoking were targeted. Patients were randomly assigned to standard care or TTM. The TTM program involved monthly contacts that included three assessments, three expert system reports, three counseling calls, and three newsletters targeted to the participant's stage of

change. At 12-month assessments, the TTM group had significantly more patients in action or maintenance for diet (40.6% vs. 31.8%) and for SMBG (38% vs. 25%). With smoking, 25% of the TTM group were abstinent compared to 15% of usual care. This was not significant due to statistical power, but the abstinent rate fell within the 22% to 25% rate for single and multiple behavior change programs for disease prevention.

With a population of patients in Hawaii with Type 1 or Type 2 diabetes, we proactively recruited 400 patients to a multiple behavior change program for diabetes self-management (Rossi et al., 2002). The same three behaviors were targeted as in the Canadian study. The TTM program, however, did not include counselor contacts but did have monthly contacts. At the 12-month assessment, the TTM group had significantly more patients in action or maintenance for diet (24.1% vs. 11.5%) and for SMBG (28% vs. 18%). There were too few smokers to do statistical comparisons, but the abstinence rates were 25.9% for TTM versus 15.9% for the controls.

We believe that the future of behavior change programs lies with stage-matched, proactive, and interactive interventions driven by sensitive assessments. Much greater impacts can be generated by proactive programs because of much higher participation rates, even if efficacy rates are lower. But we also believe that proactive programs can produce comparable outcomes to traditional reactive programs.

Empirical research has been highly supportive of the core constructs of the transtheoretical approach and the hypothesized integration of the stages and processes. Longitudinal studies have supported the relevance of these constructs for predicting premature termination and short-term and long-term outcomes. Comparative outcome studies indicate stage-matched interventions outperform the best alternative treatments available. Population-based studies support the importance of developing interventions that match the needs of individuals at all stages of change. These same studies suggest the relevance of this approach for generating participation rates that are dramatically higher than traditionally reported and for producing unprecedented impacts.

FUTURE DIRECTIONS

Health care systems are either collapsing or have collapsed. The health of our nation and the health of our health care systems cannot wait 25 years for the dissemination of psychotherapy integration. The top priority for the Transtheoretical Approach is the rapid dissemination of available science and systems. The first problems that are likely to be treated on a population basis are high-cost conditions such as depression, addiction, and stress. Populations with multiple behavior problems are also high-risk and high-cost and are major candidates for population-based treatments. We are working with health care systems, employees, governments, and other organizations to bring the most effective and cost-effective therapies to these populations.

One clinical strategy that we are studying is a step-care approach, where we begin with the least intensive and least costly of treatments, such as computer-based TTM programs. Participants who are progressing with these programs would continue with them. Those who are not progressing would be stepped up to a more intensive treatment such as proactive telephone counseling. Those not progressing with this help would then be stepped up to face-to-face psychotherapy with TTM-trained therapists.

We also need to test the limits on how many behavior problems can be treated simultaneously without reducing effectiveness. To date, we have been able to treat three or four behaviors on a population basis with no decreased efficacy but with increased impacts on health and health care costs. Even single behavioral targets such as smoking could benefit from multiple behavior therapies that can treat major barriers to successful cessation such as stress, depression, alcohol abuse, and weight gain.

The future for TTM is to continue to produce innovative interventions that can produce

breakthroughs in the impacts we can have on the most deadly, disabling, and costly of behavioral conditions.

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