Processes and Stages of Change: Counseling With the Transtheoretical Model of Change

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Technical eclecticism and theoretical integration literature has typically examined how multiple approaches to counseling practice may lead to more comprehensive and functional outcomes. Few have proposed an integration of approaches from a scientist-practitioner perspective; many others have neglected the richness found in the body of existing theory. The purpose of this synthesis is to highlight the contributions that the Transtheoretical Model of Change (J. O. Prochaska & C. C. DiClemente, 1984; J. O. Prochaska & J. C. Norcross, 1994) has for technical eclecticism and theoretical integration. The intervention implications of processes and stages of change are discussed.

Several trends in the application of counseling and psychotherapy have persisted. One trend that has existed for a number of years, in different forms, is the "eclectic" approach to counseling practice. Eclecticism has been associated with pragmatic selection of a "best fit" method for particular client tendencies, combinations of theoretical application, and integration of any number of therapy techniques (Beutler, Consoli, & Williams, 1994; Garfield, 1986; Gaw & Beutler, 1996; Norcross, 1986). Such an approach may have been initiated by advances in the identification of the "equipotentiality" of diverse interpretations of client problems. Early research suggested that a counselor's theoretically based beliefs about the cause of a client's problem (even when the beliefs were dissonant with the client's causal beliefs) were instrumental in creating change, regardless of the actual content of the counselor's beliefs (Hobbs, 1962). Furthermore, subsequent research has indicated that the discrepancy between the client's belief and the counselor's message itself, rather than the exact theoretically based content of the message, is of primary value for client change (Claiborn, Crawford, & Hackman, 1983; Cook, 2000; Hoffman & Teglasi, 1982). Researchers observed that the counselor's message itself allowed the client to "see" the problem from a different perspective that led to effective problem solving. Historically, some researchers and counselor educators might have been more open to theoretical integration upon recognizing a trend in empirical investigations that revealed relatively small differences between therapeutic approaches (Highlen & Hill, 1984).

An important distinction has been made between *technical eclecticism* (a collection of approaches and techniques without a subscription to any particular theoretical perspective) and *theoretical integration* (the integration of a mixture of techniques in which the goal is a designed framework that will lead to the merging of theoretical perspectives and more functional outcomes; Goldfried & Newman, 1986; Norcross & Newman, 1992; Prochaska & DiClemente, 1992). It has been argued that an eclectic approach, without theoretical integration, tends to leave practitioners with an approach lacking in structure and empirical direction. According to Ginter (1988, 1996) and Prochaska and DiClemente (1992), any model that achieves theoretical integration has much to offer to research and practice.

The growing trend toward eclecticism has been recognized by researchers (Garfield & Bergin, 1994; Hansen, 2000; Jacobson, 1999; Lambert, 1986; Lambert & Bergin, 1994) as well as theorists (Beutler, 1983; Garfield, 1980; Hollanders, 1999; Larsen, 1999) who design models that complement modern changes in the helping professions. For example, Gaw and Beutler (1996) proposed a systematic treatment selection that considers an individual's problem severity, motivational distress, problem complexity, resistance potential, and coping style. They posited that these dimensions are measurable with existing standardized measures. By organizing indexes of measures for each dimension, they offer general treatment recommendations that complement a client's results. The dimensions that Gaw and Beutler drew attention to are important for counselors to consider. However, with respect to the fact that individuals have varying degrees of problems on such continuums, the model may seem vague and confusing. Likewise, the number of questions that need to be answered, and the amount of testing necessary to adequately apply this model, may contribute to confusion and simply overwhelm the typical practitioner (as well as the expectations imposed by managed care organizations). With too much focus on assessment, time spent influencing or pacing the client may be lost (D'Andrea, 1984). It is evident from Gaw and Beutler's conceptualization, and answer to how to apply

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eclecticism, that application can be hindered by the actual elements that compose a counseling session.

Virtually all major counseling theories may be viewed as sharing two basic similarities. Capuzzi and Gross (1995) believed these two similarities could be reduced to the following: They all *draw attention* to their *respective processes* of change and their *respective interventions.* Any attempt to present a synthesis, in relation to technical eclecticism and theoretical integration, must account for both processes of change and the role of interventions. These may be considered the basic building blocks of eclecticism and integration. In addition to interventions, Capuzzi and Gross suggested that observation and interpretation play a role. The specific purpose of the present article is to highlight the contributions that the Transtheoretical Model of Change (TTM; Prochaska & DiClemente, 1984, 1986, 1992; Prochaska & Norcross, 1994) has for technical eclecticism and theoretical integration. An additional purpose is to consider the intervention implications of empirically derived processes and stages of change. Such a consideration may add to the current literature by defining the parameters of practice and investigation of TTM.

TRANSTHEORETICAL MODEL (TTM)

TTM is not a theory of counseling, but rather it represents an empirically derived multistage sequential model of general change. Processes and stages of change are central to TTM just as they are to all counseling theories. TTM is distinct from some counseling theories in that it was designed to provide an integrative structure to counseling practice. The structure of TTM acknowledges the importance of a developmental perspective of change, rather than for example a theoretical approach that mainly focuses on personality characteristics or behaviors as predictors of change. TTM was developed to bind various aspects of counseling without detaching practice from theory; the "separation" of theory from actual practice is often inherent in other models related to eclecticism (Ginter, 1988, 1996). Such approaches to eclecticism are incapable of combining various components of counseling into a whole. The result is a sort of "cookbook" approach to counseling.

TTM also incorporates an understanding of the "natural" dynamic tendencies that individuals show regarding self-change. Specifically, it incorporates what researchers have uncovered about how some individuals, with problems commonly seen in therapy, accomplish necessary changes without therapy (Sobell, Cunningham, & Sobell, 1996; Tucker, 1995; Watson & Sher, 1998). The constructors of TTM have capitalized on these natural dynamics, and this incorporation has influenced their investigations (DiClemente et al., 1991; Prochaska & DiClemente, 1983). This type of formulation and development of the model is reflective of the scientist-practitioner tradition in that it was developed from an empirically derived model of change.

Although TTM's implication has typically been investigated in the area of addictions counseling as well as health psychology research, TTM's empirical base and implications for client readiness for change have tremendous potential for counseling in general. TTM represents an empirically based alternative to single theoretical approaches that tend to be less inclusive in theoretical formulation and an alternative to technical eclectic approaches that tend to be inclusive to the point that various components are "poorly" held together. TTM may be one answer to the identified need of an empirically based, integrative and comprehensive approach that many professionals have expressed an interest in adopting (Beutler et al., 1994; Prochaska & DiClemente, 1992). TTM's theoretical integration is accomplished through consideration of 10 processes of change, 5 stages of change, and 5 levels of change (Prochaska & DiClemente, 1984, 1992; Prochaska, DiClemente, & Norcross, 1992). These are explored in detail in the remainder of the article.

Processes of Change

The process of change, as in all counseling theories, is a foundational element to the framework of TTM. Individuals engage in or attempt an array of solutions to modify problematic thinking, deficiencies in functioning, problem behaviors, or undesirable affects. The processes of change have been identified as the ways in which individuals attempt to change with or without therapy. Unlike many other approaches, including those that purport to be integrative, the processes of change relevant to TTM are supported substantially with empirical evidence (DiClemente & Prochaska, 1982; Prochaska & DiClemente, 1983, 1984, 1992; Prochaska et al., 1992; Prochaska & Norcross, 1994; Prochaska, Norcross, Fowler, Follick, & Abrams, 1991; Prochaska, Rossi, & Wilcox, 1991). Prochaska, Velicer, DiClemente, and Fava (1988) demonstrated that a large degree of change during counseling could be attributed to 10 statistically separate processes of change. The 10 processes of change that were empirically derived by use of principal components/varimax rotated factor analysis are listed in Table 1 with a brief description for each process.

An individual's process of change has been operationally defined and may be assessed by using the 40-item Processes of Change Questionnaire (Prochaska et al., 1988), the Processes of Change Questionnaire-Short Form (Bellis, 1994), or may be inferred from their strong relationship to particular stages of change (Prochaska & DiClemente, 1984, 1992; Prochaska et al., 1992).

Stages of Change

Two reported studies (McConnaughy, DiClemente, Prochaska, & Velicer, 1989; McConnaughy, Prochaska, & Velicer, 1983) were designed for the investigation of existing stages of change from an empirically derived profile perspective. These researchers used cluster analytic techniques and found the stages of change to be more diverse than originally suggested by factor analytic studies. Support for several additional stages of change have yet to be supported by external validators. However, researchers seem confident in two aspects regarding the stages of change.

TABLE 1

Processes of Change and Their Descriptions

Process	Description
Consciousness raising	Information about the self and the problem are explored and brought to concrete awareness
Self-reevaluation	The self is reevaluated with respect to the antecedents and potential solutions to the problem
Self-liberation	The potential for a desirable outcome and the changes required for it are examined in terms of ability and commitment
Counterconditioning	Alternatives for problem behaviors are constructed and tested
Stimulus control	Stimuli that are associated with, or encountered before, the activation of the problem behaviors are avoided
Reinforcement management	Rewards from the self or others become contingent upon changes required to meet goals
Helping relationships	Interpersonal relationships with people who care are further developed by trusting them and being open
Dramatic relief	Affect is experienced and expressd regarding the problems and potential solutions
Environmental reevaluation	Problems and potential solutions are considered with regard to how they influence the physical environment
Social liberation	The opportunity for more desirable behaviors becomes increasingly available and valued by society

First, *understanding the identified stages goes hand in hand with understanding the two general methods used to assess an individual's current stage.* A discrete categorical classification involves interview questions and criteria set at the discretion of the practitioner. The second method involves statistical tests and is referred to as a continuous statistical approach (Prochaska et al., 1992). Five stages of change have emerged from the research conducted: Precontemplation, Contemplation, Preparation, Action, and Maintenance (DiClemente et al., 1991; McConnaughy et al., 1989; McConnaughy et al.,1983). These five factors have received support via factor analysis or cluster analytic approaches.

Precontemplation is characterized by the lack of a perceived need or intention for change. Individuals found in this stage may typically be involuntary or court ordered to receive services. They may be as resistant to the counseling process as they were before giving in to the pressure from family members, friends, or employers to receive assistance.

Contemplation tends to be characterized by an awareness of the problem yet a lack of a decisive action or a commitment to take necessary actions for change. For all stages, especially contemplation, it is important to distinguish between changes (desired outcomes) and necessary actions for change (prerequisites for the potential desired outcome).

Preparation (sometimes referred to as "Decisionmaking") resulted from the empirical work of McConnaughy et al. (1989; 1983). Preparation, which has been supported by cluster analyses, but not factor analyses (see Prochaska et al., 1992), is characterized by a decision to change as evidenced by taking small behavioral and mental actions necessary for change.

Action is often characterized by overt behaviors, yet it is perhaps more accurately identified when the motivation to take such steps is evidenced over time, effort, and commitment. *Maintenance* is characterized by a continuation of necessary actions that must be met for the desired change to be sustained. If appropriate and purposive maintenance adjustments do not continue, a process of relapse is likely to transpose. Regarding Gorski and Miller's (1982) model of the relapse dynamic, behaviors and attitudes are viewed as leading to recovery or relapse. They emphasize that the maintenance of a change is never to be underestimated regarding the efforts needed to sustain difficult change and that adequate maintenance begins with active prevention.

The second aspect of the stages of change model, in which researchers have expressed confidence, involves the shift between stages of change. Movement is much like that of a vertical spiral relationship in which progression through the stages of change, for a particular problem behavior, is relatively forward and sequential (Precontemplation → Contemplation → Preparation → Action → Maintenance). *A vertical spiral conceptualization accounts for the possibility of stage of change regression and revisiting stages at more advanced levels* (this is depicted by repetition of the stages Precontemplation, Contemplation, Preparation, Action, and Maintenance). More important, progression to a successive stage is largely dependent upon the completion of specific tasks, represented by the stages themselves (Prochaska et al., 1992). A representation of this movement is displayed in Figure 1.

Incorporating the stages of change when tailoring interventions may first include identification of the client's stage. This can be most efficiently accomplished by using the Stages of Change Questionnaire (McConnaughy et al., 1989; McConnaughy et al., 1983) in conjunction with follow-up interview questions. Subsequently, it is essential to identify the needs of the client and identify the tasks to be completed (Prochaska & DiClemente, 1992). Integrating needs and task assessment into practice is comparable to components of effective problem formation and problem solution identified by Watzlawick, Weakland, and Fisch (1974). Here, the focus is on the application of a four-step procedure: concrete identification of the problem, identification of successful and unsuccessful solutions previously attempted, a concrete identification of changes to be achieved, and identification and implementation of a plan to meet the desired goals or changes.

Levels of Change

Although levels of change are not a primary focus of the present article, their basis in TTM is worth noting. A strict

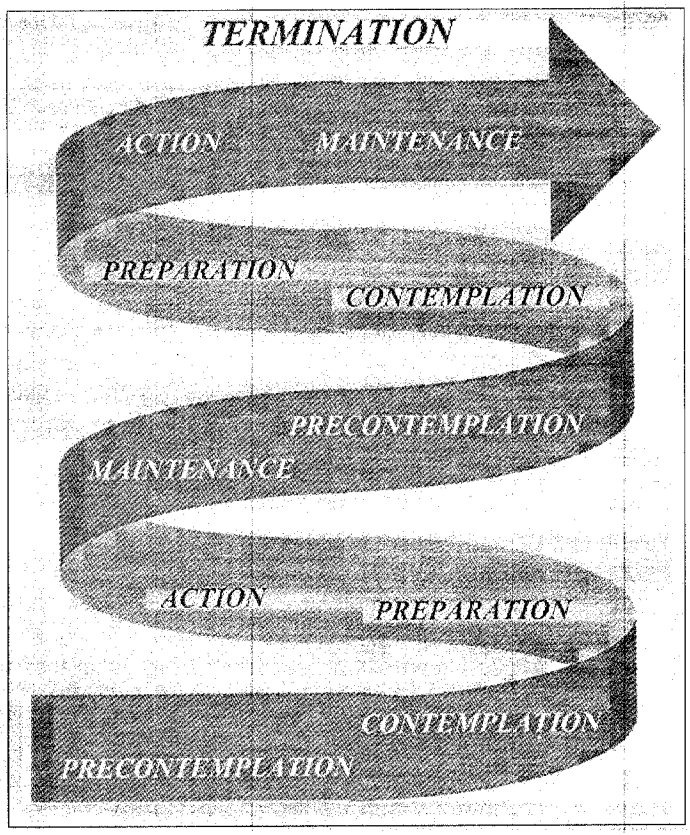

FIGURE 1

A Spiral Model of the Stages of Change

Note. Adapted from "In Search of How People Change: Applications to Addictive Behaviors," by J. O. Prochaska, C. C. DiClemente, and J. C. Norcross, 1992, *American Psychologist, 47,* p. 1104. Copyright 1992 by the American Psychological Association. Adapted with permission.

application of TTM integrates processes and stages of change within the context of the problems, represented by the five levels of change (Symptom/Situational Problems, Maladaptive Cognitions, Current Interpersonal Conflicts, Family System Conflicts, and Intrapersonal Conflicts). The integration of the levels of change with processes and stages certainly makes a TTM perspective more complex but also more comprehensive. Because levels are like processes, in which prevalence is largely dependent upon stage of change, their consideration enhances the attention toward a client's readiness and motivation for change (Prochaska & DiClemente, 1992).

INTEGRATING PROCESSES AND STAGES OF CHANGE

To integrate the processes and stages of change into counseling practice, it is not entirely necessary to hold a strong devotion to a single theoretical approach; however, it is necessary to subscribe to a general designed goal or direction of therapy. Strupp and Hadley (1977) proposed that the procedures and techniques used in counseling are designed to advance the client closer to an ideal standard or norm. D'Andrea (1984) has defined counseling in terms of the counselor assuming the role of a "pacer," in a process in which the client is challenged by novel, stimulating, and provocative experiences, events, situations, or information. The intention to enhance the client's ability to adapt to existing realities facilitates the development of greater competencies and satisfaction within his or her environment. Within the context of the integration of many theoretical approaches, such definitions of counseling are complementary and somewhat assumed by TTM. Similarly, counseling from a TTM perspective allows for a more *macroscopic approach* (involving a broad and comprehensive theoretical framework) and *personal adaptation* (involving an increase in critical, logical, accurate, and scientific-like thinking) rather than simple *personal adjustment* (D'Andrea, 1984).

Empirical support has accumulated for the hypothesis that particular processes of change are prevalent during particular stages of change with or without therapy (Prochaska & DiClemente, 1984, 1992; Prochaska et al., 1992). Thus a basic role of the counselor is to aid the client in defining tasks and techniques (processes) required to achieve desired goals. The intention is to promote and shape the client's approach toward the problem to the next stage of change, which results in a new set of challenges.

An important assumption of TTM is intentional change. However, all clients using counseling services are not voluntary. TTM offers an explanation for earlier stages of change (precontemplation and contemplation); typically found among involuntary clients, these stages do not forebode desirable outcomes. According to the application of TTM, desirable changes with involuntary clients are much more likely when clients are encouraged to use stage appropriate processes (consciousness raising, dramatic relief, and environmental revaluation). Offering some alternative for resistant clients makes TTM distinct from many other approaches that inadequately address the problems of such clients, who are often deemed inappropriate for counseling services.

TTM interventions, tailored with respect to stage of change, are designed with the understanding that particular processes are not only associated with particular stages but that they promote and enable an individual to accomplish tasks at particular stages. Thus, a basic role of the TTM practitioner is to promote change through the systematic application of successive processes that the client must use.

The way in which the integration of processes and stages of change in practice may aid the process of counseling is illustrated by something as simple as interpreting the results of a questionnaire. The use of interpretation, in this case, becomes a therapeutic intervention. The importance of such interpretations cannot be overstated. Questionnaire interpretation, or review of items with clients, may be extremely helpful in understanding how clients perceive their problems, themselves, and their relation to the world (Goldman, 1971). Theorists of social cognition propose that a general test interpretation session with clients is effective as a form of relevant therapeutic conversation and perceptual exploration (Martin, Prupas, & Sugarman, 1998). Furthermore, conversations with clients

regarding their test results may be more memorable and influential in subsequent integrations of identity. Test information, especially, tends to be perceived by clients as significant and is often retained in memory for a longer time (Hanson, 1993). In addition, information that is personally relevant to self-perceptions, goals, or plans, while also inconsistent with belief systems, tends to enhance memory of the content and event in which it was presented (Mandler, 1984; Pezdek, Whetstone, Reynolds, Askari, & Dougherty, 1989). Subsequently, information of this kind may be more likely to produce dissonance until the information is integrated into an individual's self-perception by altering his or her attributions to problems (Martin, 1994).

As an intervention, the use of test interpretation with personality, vocational, or interest inventories has a long history of proven effectiveness (Martin et al., 1998) and fits well with a TTM approach. Test interpretation techniques and instruments have been used to help provide a clearer understanding of the self and interests. Because of the general nature of its items, cooperative interpretation of the Processes of Change Questionnaire or the Stages of Change Questionnaire may help clients develop a better understanding of the dynamics of change. Enhancement of the therapeutic alliance, in which the counselor and client both gain a clearer understanding of particular tasks to accomplish for movement, may be an outcome.

Counseling from a TTM approach may be viewed as an approach designed to aid clients in their attempts to reach the next stage of change, in hopes that desirable outcomes and goals will be attained. Unlike other problem-solving approaches that are designed to capitalize on the preferred problem-solving approach of the client (Gerber & Basham, 1999), TTM capitalizes on the stage of change-specific problem-solving approaches to prompt a successive pattern of change. The integration of the "counselor as a pacer" perspective (D'Andrea, 1984) with TTM may be viewed as counseling from an identified stage to the successive stage.

From Precontemplation to Contemplation

The integration of processes and stages has great implications for client readiness for change (O'Hare, 1996a, 1996b). To consider processes and stages of change is to consider the client's readiness for change. Individuals at the precontemplation stage are simply not ready for challenges typically encountered with behavioral approaches (e.g., behavioral schedule in which the client is expected to do that which he or she is clearly unmotivated to do in the first place). Individuals at precontemplation tend to lack a perceived need or intention for change. Such an attitude is not conducive to following directions and subscribing to behavioral schedules, let alone attending counseling sessions. An individual at precontemplation would benefit much more from processes that increase arousal and from supportive, nondirective interventions (Groth-Marnat, 1997).

Prochaska and DiClemente (1984, 1992) and Prochaska et al. (1992) determined that the processes of consciousness raising, dramatic relief, and environmental reevaluation tend to be most prevalent for individuals when attempting to change with or without counseling interventions. Adlerian therapy, strategic therapy, and psychoanalytic-based therapies are leading therapies that have been identified as fitting most appropriately with the respective processes of TTM at the precontemplation stage (Prochaska & DiClemente, 1992).

Motivational interviewing (Miller & Rollnick, 1991) has also been identified as a complementary multistage sequential model of counseling for clients at the precontemplation stage (Gerber & Basham, 1999). Because motivational interviewing is based on the assumptions of a theory of cognitive dissonance (Festinger, 1957), it may evoke a natural interest or motivation for change. The client attempts to reduce dissonance once the counselor leads the client to the awareness that a discrepancy exists between his or her behaviors and beliefs. Motivational interviewing may be effectively integrated with TTM because it addresses the indifference to change characterized by the precontemplation stage.

From Contemplation to Preparation

Clients at the contemplation stage tend to have an awareness of their problem yet lack the action or commitment necessary for change. Clients at this stage may benefit most from exploration of values, personal goals and desired changes, recognition of necessary actions for desired changes, identification of reasons for desired changes, exploration of used or unused strategies for making changes (Groth-Marnat, 1997) and targeted motivational interviewing.

Prochaska and DiClemente (1984, 1992) and Prochaska et al. (1992) discovered that the process of self-reevaluation tends to be most prevalent for individuals when attempting to change with or without therapy interventions. Rational-emotive behavior therapy, cognitive therapy, transactional analysis, and existential therapy are leading therapies that have been identified as fitting most appropriately with the respective process of TTM at the contemplation stage (Prochaska & DiClemente, 1992).

From Preparation to Action

Clients at the preparation stage have taken small behavioral and mental actions necessary for change. These actions indicate their potential commitment and may be enhanced through exploration of reasons for and against changing and an inventory of strengths and weaknesses that may serve to promote or inhibit particular strategies (Groth-Marnat, 1997).

Prochaska and DiClemente (1984, 1992) and Prochaska et al. (1992) observed that the process of self-liberation tends to be most prevalent for individuals when attempting to change with or without therapy interventions. Gestalt therapy is the leading approach that has been identified as fitting most appropriately with the respective process of TTM at the preparation stage (Prochaska & DiClemente, 1992).

From Action to Maintenance

Because clients in the action stage have demonstrated their effort and commitment to change through overt behaviors,

they may benefit most from behavioral strategies as well as exploring the complexity of problems, levels of change, reevaluation of self-statements, exploration of concrete necessary actions, and recording of thoughts and behaviors (Groth-Marnat, 1997).

Prochaska and DiClemente (1984, 1992) and Prochaska et al. (1992) noted that the processes of reinforcement management, helping relationships, counterconditioning, and stimulus control tend to be most prevalent for individuals when attempting to change with or without counseling interventions. Behavior therapy and structural therapy are leading therapies that have been identified as fitting most appropriately with the respective processes of TTM at the action stage (Prochaska & DiClemente, 1992). Subsequent to the action stage, clients in the maintenance stage have demonstrated their willingness to actively continue the actions necessary for sustained change. Clients may benefit most from education of the relapse dynamic and encouragement for continued actions necessary to prevent relapse of symptoms (Gorski & Miller, 1982).

LIMITATIONS

TTM is a framework to use with intentional change. Although the suggested precontemplation and contemplation associated processes, as well as motivational interviewing, may prompt motivation for change, successive stages are unlikely to be reached if change does not become intentional. Of course, many clients do not enter counseling experiences with intentions to change but rather desire a cessation of undesirable symptoms or situations.

Among investigators (Dishion, McCord, & Poulin, 1999; Gross & Robinson, 1987; Schaeffer, 1998), increased attention has been given to the study of the ways in which interventions may harm clients. TTM may provide logical explanations for how interventions that ignore individual's development or stage of change may prove ineffective or harmful. However, the components of TTM must be used with caution. For instance, Prochaska et al. (1992) presented an overview of how people change with or without the aid of counseling services. They referred to an investigation designed to reveal the processes that were most prevalent for a group of smokers identified at the precontemplation stage. According to a TTM approach, these individuals were expected to score highest in the processes of consciousness raising, dramatic relief, and environmental reevaluation. These processes were found to be operating only at a moderate level. Instead, these individuals tested highest in the processes of social liberation and helping relationships, two processes typically seen operating in the action or maintenance stages. As with all social science investigations, empirical findings cannot be generalized in all situations. The risk of harm, or the inhibition of successive change, may emerge from mismatching appropriate processes of change that are suggested by TTM. Because the relationship between processes and stages of change are only tendencies, it is best to identify both of these components for each client in order to reduce the likelihood of mismatching treatment interventions (McConnaughy et al., 1989; Prochaska et al., 1992; Prochaska et al., 1988).

The proceeding example points to the importance of gathering confirmatory information from the client when a particular stage or process is suspected. When possible, objective measures should be used in actual practice settings as an addition to initial impressions. To simply assume processes from identified stages or to assume stages from identified processes is not sufficient nor is it recommended.

In their review of meta-analytic studies of the effectiveness of group psychotherapy, Fuhriman and Burlingame (1994) highlighted the fact that some clients attain treatment goals while others simply do not. Fuhriman and Burlingame further noted that problem solving is central to the study and application of appropriate group counseling interventions. The way in which groups solve group and individual problems may be directly related the processes described by TTM. It is likely that the perspective of TTM is applicable to group counseling. However, such a notion is tentative due to the lack of reported investigations that integrate the components of TTM and group counseling processes. The implications of a client's readiness for change at a particular stage may provide a substantial explanation for therapeutic failures reported in group work investigations. Group counseling offers many potential processes that may be inappropriate for an individual's stage of change. However, research that integrates the components of TTM and group work is certainly lacking.

DIRECTIONS FOR FUTURE RESEARCH

Components of TTM have only been tested among addictions populations and other populations central to the field of health psychology. Most likely, testing of TTM has been limited to addictions populations because the original stages were first observed (DiClemente & Prochaska, 1982) in such settings. Study of long-term addiction treatment participants also offers more easily observed and measured behavior, whereas residential treatment is more conducive to longitudinal investigations of development. However, several issues remain for future research. TTM may have implications for a wide range of helping professions that subscribe to the notion that change must occur for individual development. There is a need to test stage model components among a wider population of problem behaviors in general (Weinstein, Rothman, & Sutton, 1998). Partial tests of the clinical validity of TTM have been examined among survivors of childhood sexual abuse (Koraleski & Larson, 1997). A more comprehensive testing of TTM's assumptions and clinical use must be established.

More information about individuals in particular stages may be derived in two ways. First, stages may be integrated with other factors and theoretical constructs (e.g., expectations toward counseling) that may interact with, be associated with, or influence stages (Satterfield, Buelow, Lyddon, & Johnson, 1995). Second, information that has already been

attained and identified regarding the differences between stages and between processes may be tested from a more complex psychometric perspective (O'Hare, 1996a, 1996b). TTM capitalizes on overt behaviors and shared cognitions, but it is likely that many small changes go unrecognized by the practitioner as well as the client. If recognized and identified, these changes could have major implications for the direction and maintenance of change efforts.

Catastrophe theory (Saunders, 1980) may be extended to any situation in which change is the focus. This mathematical theory may therefore be extended to psychological and behavioral functioning through the understanding of changes in the physical environment. The example of a bridge spanning a river is commonly used to describe a dynamic in which the bridge continues to change and weaken (by gradual deterioration of its steel girders) but is not recognized until a sudden collapsing destruction. How a counselor constructs his or her conceptualization of change is important, and perhaps predictive of the degree to which stages of change are considered in practice. What is critical for researchers is to determine just which changes are clinically significant and relevant to treatment interventions (Jacobson, Roberts, Berns, & McGlinchey, 1999; Kazdin, 1999; Kendall, 1999; Kendall, Marrs-Garcia, Nath, & Sheldrick, 1999). Esoteric, inapplicable theory is of little interest to the counselor—the ultimate test of a theory or model is the arena of practice.

The degree of clinical utility in using the stages and processes of change in educational sessions or treatment planning must be investigated further. Because of the concreteness of the model, it may be viewed as one approach that presents clients with principles more easily conceptualized and internalized. Thus it may be viewed as more likely to meet an essential criteria (client's belief or confidence in the therapeutic method) for affecting change (Frank, 1973). At the same time, because principal elements of TTM may be more easily learned by clients, it may be more influential following actual counseling sessions. This is of utmost importance because long-term change rests with the responsibility and commitment of the client (Frank, 1974). If the use of a particular approach can have a lasting effect after treatment, it only seems likely that it can be understood and integrated during counseling.

The degree of therapeutic change associated with TTM has been inadequately explored. Virtually all reported studies concerning the model and its components have focused on validation rather than testing its clinical utility. In addition to integrating TTM with group counseling research, subsequent investigations may contribute to the clinical utility literature of TTM by addressing directions similar to those that Lambert (1986) identified as central to the study of integrated forms of counseling theory. In general, TTM should be supported by effectiveness that is equal or superior to that of single theory or eclectic (technical) approaches because TTM encompasses the most effective processes (interventions) from a wide range of therapeutic approaches. Thus, systematic comparisons between counseling approaches that use TTM, those that do not, and no therapy would contribute greatly to the study of the incorporation of processes and stages of change (as defined by TTM) into counseling practice.

Finally, evidence of the clinical utility of TTM would improve greatly where the stages of change are studied from an empirically derived profile perspective. In a way similar to what was done in the investigations of McConnaughy et al. (1989; 1983), the patterns of the stage of change (a collective and simultaneous perspective of each stage as if it was a set of continuums) could be studied in association with prevalence of processes, as was done from the individual stage perspective. Cluster analytic methods, as were used by McConnaughy et al. (1989; 1983), not only draw attention to the notion that individuals are much more diverse than one scale elevation may indicate but contribute to the system of empirical classification of stages essential for much needed investigations.

CONCLUSION

Although many issues for research remain, the identified processes and stages of change seem to have both real theoretical and clinical potential. Study of TTM components certainly unlocks a unique means to understanding client change. At the same time, integration of the processes and stages provides empirically guided treatment planning implications.

Support for the central finding that processes are associated with particular stages, with and without therapy, continues to accumulate. The treatment of problem behaviors with the integration of TTM of change may provide a more organized and empirically guided approach. Rather than using only data-supported constructs or strict theoretical techniques, TTM encompasses and seeks to balance both empiricism and theory. Simply stated, the processes and stages of change, and the relationship between them, have emerged from theoretical principles and empirical studies. At this point in the evolution of counseling practice, TTM has emerged as an integrative model that embraces the advantages of technical eclecticism without ignoring theoretical integration and science. The future of TTM lies in the testing of its clinical utility among populations and situations as diverse as its components.

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