The transtheoretical model and motivational interviewing in the treatment of eating and weight disorders

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Abstract

The transtheoretical stages of change model suffers from conceptual and empirical limitations, including problems of stage definition, measurement, and discreteness. Sequential transition across stages has not been established. The model lacks strong predictive utility, and there is little evidence that therapeutic interventions must be matched to stage to facilitate change. Initial tests applying the model to weight and eating disorders have been negative. Although the model is frequently associated with motivational interviewing (MI), no theory links the two. MI should be evaluated independently as a treatment for weight and eating disorders, to be used either alone or prior to treatments not explicitly addressing motivation. The conceptual compatibility and procedural overlap between cognitive behavioral therapy (CBT) and MI are analyzed.

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1. Introduction

The transtheoretical stages of change model (Prochaska & DiClemente, 1983, 1986; Prochaska, DiClemente, & Norcross, 1992) has enjoyed considerable popularity as a means of understanding and promoting behavior change in addictive disorders and other health behaviors. According to the transtheoretical model, a person changes by passing through a defined sequence of qualitatively distinct stages. The number of proposed stages and their definitions vary somewhat depending on the study, but the five stages of change are generally operationalized as follows: precontemplation (not thinking about changing the problem behavior within the next 6 months), contemplation (intending to change in the...
next 6 months), preparation (planning to change in the next month, typically having already tried unsuccessfully to change at least once in the past year), action (making health-relevant changes in the behavior for as little as 1 day or as long as 6 months), and maintenance (having made behavioral changes for longer than 6 months; Prochaska, Redding, & Evers, 2002).

The different stages of readiness to change are hypothesized to predict treatment participation, dropout, efficacy, and long-term maintenance of improvement (Prochaska et al., 2002; Prochaska & Velicer, 1997). A key assumption of the transtheoretical model is that interventions need to be matched to an individual's specific stage of change to be effective; stage-matched treatments should be more effective than mismatched or traditional action-oriented psychological treatments are (Prochaska et al., 2002; Weinstein, Rothman, & Sutton, 1998).

The transtheoretical model describes 10 processes that people use to enable change. The first five processes are cognitive or experiential—consciousness raising, dramatic relief, environmental reevaluation, social liberation, and self-re-evaluation and are associated with the early stages. The remaining five processes—stimulus control, helping relationships, counterconditioning, contingency management, and self-liberation—are said to be behavioral in nature and to be used most frequently in the later stages of change. These 10 processes of change are said to be "like independent variables that people need to apply to move from stage to stage" (Prochaska et al., 2002, p. 63). The transtheoretical model also incorporates the constructs of self-efficacy and the perceived benefits and costs of changing.

Recent years have witnessed the increasing extension of the transtheoretical stages of change model to the treatment of eating and weight disorders. In this paper, we provide a critical analysis of the conceptual and empirical basis of the model and its utility in the treatment of eating and weight disorders. We also review the application of motivational interviewing (MI; Miller & Rollnick, 2002) to eating and weight disorders.

2. The transtheoretical stages of change model: a critical analysis

The transtheoretical stages of change model has focused attention on the all-important need to enhance patients’ motivation to change their behavior. It has encouraged research across a range of health behaviors, especially in the field of addictions (Prochaska, DiClemente, et al., 1992). The model has also been associated with the development of an effective approach for overcoming resistance to change, namely, MI (Miller & Rollnick, 2002). Nonetheless, the model has been the target of a number of recent conceptual and empirical critiques (Bandura, 1997; Drieschner, Lammers, & van der Staak, 2004; Littell & Girvin, 2002; Sutton, 2001; Weinstein et al., 1998).

2.1. Definition and measurement of stages of change

A basic problem with the model involves how the stages of change are defined and measured. One method has been to use simple algorithms to assign individuals to one of the hypothesized stages of change based on their responses to a short questionnaire. Sutton (2001) has noted that, in some cases, these staging algorithms are logically unsound. For example, he notes that in the commonly used staging algorithm developed by DiClemente et al. (1991), someone in the preparation stage of quitting smoking must have unsuccessfully tried to quit for 24 hours in the past year. This means that smokers cannot reach the preparation stage the first time they try to quit. Furthermore, the time frames used to
define the different stages (e.g., planning to change in the next 6 months [contemplation] vs. in the next month [preparation]) are arbitrary; any variation in the time limits shifts the composition of the stages (Weinstein et al., 1998).

A second method of measuring stages of change has been to use a multidimensional questionnaire, in which an individual receives a subscale score for each stage. An example of this type of questionnaire is the University of Rhode Island Change Assessment Scale (URICA; McConnaughy, DiClemente, Prochaska, & Velicer, 1989), also known as the stages of change questionnaire. In different studies, and particularly when examining different types of behaviors using different measures, there have been inconsistencies in the definitions of the stages. For example, in the URICA, an individual in the action stage must be working on the problem, whereas in other studies that use a staging algorithm an individual in the action stage must have ceased the problem behavior within the past 6 months (Abrams et al., 2003).

2.2. The proposed stages are not discrete categories

In order for a stage theory to be valid, it must be possible to assign individuals to one and only one stage category (Bandura, 1997; Weinstein et al., 1998). In their comprehensive critique of the stages of change model, Litell and Girvin (2002) concluded that with the exception of the precontemplation stage, the different stages of change have not been shown to be discrete. They argue that studies have generally found that most participants do not fit neatly into one stage of change but instead may endorse items on questionnaires representing at least two different, sometimes nonadjacent, stages.

Due to the difficulty of determining an individual’s stage of change, a number of researchers have used a continuous measure of readiness for change in place of an algorithm that forces each participant into only one stage of change. Confusion exists, however, when the participants’ readiness to change is measured on a continuum but the concept of stages is retained. For example, Dunn, Neighbors, and Larimer (2003) advocate using the URICA because it gives “a score on each Readiness to Change subscale, which allows for individuals to be engaging, to some degree, in multiple stages at the same time” (p. 308). The readiness and motivation interview for eating disorders (RMI; Geller & Drah, 1999) is another example of a measure that allows participants to be in more than one stage at once. If individuals are in multiple stages at once, however, one of the fundamental requirements of a stage theory is no longer met (Bandura, 1997; Litell & Girvin, 2002; Sutton, 1996).

In multidimensional questionnaire measures of stages of change, such as the URICA, the patterns of correlations among the subscales of the questionnaire indicate that the questionnaire is not measuring discrete, qualitatively different stages of change (Sutton, 2001). A recent study (Blanchard, Morgenstem, Morgan, Labovivie, & Bux, 2003) gave the URICA to participants beginning treatment for substance abuse. Using cluster analysis, this study found that a two-cluster solution (precontemplation vs. contemplation/action) best fit the data. When the precontemplation and the contemplation/action groups were compared, however, for the most part, there was little difference between their mean scores on the subscales representing each stage. This similarity between the precontemplation and the contemplation/action groups provides further support to the conclusion of Litell and Girvin (2002) that “cluster analytic studies show that most participants are not in a single stage” (p. 237). In line with these findings, analyses of the Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES) for alcohol problems have consistently revealed a factor structure that is incompatible with the stages of change model (Miller & Tonigan, 1996).
2.3. Sequential transition across different stages

Sequential movement through stages is an essential element of any stage theory, although progress need not be irreversible (Weinstein et al., 1998). The transtheoretical model posits that as people make progress towards changing their behavior, they move in a set order through the various stages of change from precontemplation to maintenance, although during relapse, it is possible for individuals to revert to a previous stage (Prochaska et al., 2002).

In their review, Littell and Girvin (2002) found little support for sequential movement across stages from either cross-sectional or longitudinal research. Cross-sectional studies have attempted to confirm the sequence of the stages by examining whether the stages of change scales for adjoining stages are more highly correlated than those for nonadjoining stages. Some studies show this pattern of correlations (McConnaughy, Prochaska, & Velicer, 1983), but other studies have found that some adjoining and nonadjoining stages are approximately equally correlated (McConnaughy et al., 1989) or even that some nonadjoining stages are more strongly correlated with each other than adjoining stages are (Belding, Iguchi, & Lamb, 1996).

Longitudinal studies of sequential movement through the stages show numerous different patterns of stability and change (Littell & Girvin, 2002). Norman, Velicer, Fava, and Prochaska (1998), for example, assessed smokers’ stage of change across five time points over 2 years and found over 400 different patterns. Sutton (2001) concludes, based on a similar longitudinal study by Prochaska, Velicer, Guadagnoli, Rossi, and DiClemente (1991), that “forward progressive movement through the stages is not the modal pattern of change among volunteer self-changers” (p. 182). No longitudinal studies have documented progression through all five stages of change (Littell & Girvin, 2002). In addition, longitudinal studies have not succeeded in determining what leads to movement from one specific stage to the next (Sutton, 2001).

2.4. Processes and stages of change

The 10 processes of change that supposedly facilitate stage progression are an eclectic mix. Bandura (1997) observes that the “behavioristic, psychodynamic, and existential theories from which this transtheoretical’ collection is forged, offer contradictory prescriptions for how to change human behavior,” and that rather than being “an overreaching integration of seeming diversity,” the transtheoretical model is “atheoretical” (p. 414). Davidson (1992) reached the same conclusion.

There are other problems with the list of processes of change. For example, some of the processes seem more like procedures than theoretical processes (e.g., stimulus control). Prochaska et al. (2002) state that “the processes are like independent variables” (p. 63). However, a genuine mediator of change that is hypothesized to explain the effects of a treatment intervention (i.e., an independent variable) is conceptually distinct from a procedure (Kraemer, Wilson, Fairburn, & Agras, 2002). In addition, some processes seem incomplete or divorced from their original conceptual context. For example, stimulus control is included, but the more complete range of self-regulatory processes that have been extensively studied and documented is not. Among these are self-monitoring, problem solving, and analyzing the antecedents and consequences of a behavior (Bandura, 1986; Kanfer & Goldstein, 1986).

A process theory, in contrast, would focus on the determinants of a lack of motivation for change. In social cognitive theory, for example, the proximal determinants of motivated behavior would include risk perception, self-regulation, efficacy beliefs, and outcome expectations. Therapeutic strategies would
be linked to these well-established mechanisms of change rather than to categorical stages. Psychological change is dynamic, featuring reciprocally interacting cognitive, behavioral, and environmental influences (Bandura, 1978). According to this theory, it is the knowledge of these mechanisms that should most effectively govern the selection and use of interventions, not descriptive categories.

Self-determination theory (SDT; Ryan & Deci, 2000) provides another example of how a theoretical analysis of motivation improves upon the transtheoretical model. For example, in this analysis, amotivation, a state characterized by a lack of intentionality and sense of personal agency, could be attributable to the person not valuing the activity, low self-efficacy, or the belief that change will not yield a desirable outcome. Different underlying reasons for amotivation at any point in the process of changing a behavior may require different interventions.

Another important feature of SDT is that it considers not only the level of motivation but also the degree to which the motivation is extrinsic or intrinsic. The theory proposes a continuum of motivation ranging from external regulation to intrinsic motivation, reflecting different degrees of autonomy or self-determination. The greater the person's autonomy or intrinsic motivation is, the greater the person's likelihood of learning and sustaining behavioral change. For example, the more participants were autonomously motivated to lose weight, the more successful they were in maintaining treatment-induced weight loss (Williams, Grow, Freedman, Ryan, & Deci, 1996). Ryan and Deci (2000) state:

One does not have to progress through each stage of internalization with respect to a particular regulation; indeed, one can initially adopt a new behavioral regulation at any point along this continuum depending on prior experiences and situational factors...there is no necessary “sequence” (pp. 62–63).

2.5. Are distinctive theoretical processes linked to different stages?

The association of the 10 processes of change with specific stages is based, in part, on a self-report study of smokers who attempted to quit either on their own or in therapy (DiClemente & Prochaska, 1982). In both groups, smokers stated after the fact that they employed more cognitive and emotional processes (such as dramatic relief) in the early stages and more behavioral processes (such as stimulus control) in the later stages of change. These findings have been replicated, to some degree, in studies of people trying to change health-relevant behaviors including smoking (Prochaska & DiClemente, 1983, 1986). It makes sense that in the action and maintenance stages (which, by definition, require making behavior changes), participants report being more likely to use behavioral processes. Prochaska et al. (2002), however, make an unwarranted conceptual leap from this finding to prescribing which change processes will be most effective in encouraging change among patients in a given stage. Participants’ self-report of which processes they use in a given stage does not necessarily indicate which processes would most effectively lead to change in that stage.

Cognitive or emotional change does not necessarily precede behavioral change, although the way that Prochaska and DiClemente (1983) associate certain change processes with specific stages suggests that this should be the case. That behavior change may occur first and thereby produce cognitive change is a well-established finding in psychology, in general, and in cognitive behavioral therapy (CBT), in particular (Bandura, 1969; O’Leary & Wilson, 1987).

Linking the 10 processes of change to specific stages often appears arbitrary and at odds with clinical evidence. Take, for instance, the model’s statement that the “helping relationship” is a “behavioral
process” that is matched primarily to later stages of change (Velicer, Prochaska, Fava, Norman, & Redding, 1998). One objection to this view is that a helping or therapeutic relationship is more than a “behavioral process.” It can have a direct impact on the patient’s emotional and cognitive functioning beyond simply serving as a supportive social context.

Another problem is the notion that helping relationships should be employed primarily by those in the action or maintenance stage (Prochaska et al., 2002). Clinical research and practice is inconsistent with this assertion. It is well established that a good helping relationship (or therapeutic alliance) is important throughout the course of treatment (Barber, Connolly, Crits-Christoph, Gladis, & Siqueland, 2000). Within CBT, the alliance can be of critical significance at the onset of treatment in engaging an ambivalent or resistant patient in the therapeutic process (Vitousek, Watson, & Wilson, 1998). Miller and Rollnick (2002), describing MI, declare that “counseling style characteristics manifest themselves rather early in the treatment process and, indeed, can have a significant effect within a single session...Whatever it is that happens during treatment begins very early” (p. 7).

2.6. Do stages of change predict behavior change?

The practical utility of the transtheoretical model is obviously called into question if discrete stages either do not exist or cannot be assessed reliably. The issue is ultimately an empirical one. Prospective studies of the model’s predictive value are surprisingly sparse. The preponderance of studies has focused on comparing individuals in different stages to see if they differ on theoretically relevant constructs as predicted. Such cross-sectional studies do not provide a strong test of a stage model the way longitudinal experimental studies do (Blanchard et al., 2003; Weinstein et al., 1998).

The available longitudinal evidence as to whether the model predicts change is mixed at best (Littell & Girvin, 2002; Sutton, 2001). Even studies that have shown a relationship between baseline stages of change and outcome have been characterized by marked inconsistency in terms of which stage predicts dropout or treatment-induced change. In some studies, stages are associated with outcome in a manner that contradicts the model (Wilson, Bell-Dolan, & Beitman, 1997). For example, in a study of patients with panic disorder, Dozois, Westra, Collins, Fung, and Garry (2004) found that high URICA scores on contemplation were related to improvement, whereas precontemplation and action scores were not.

The model does not appear to reliably predict outcome in the treatment of substance abuse. Blanchard et al. (2003) showed that neither a measure of subtypes (precontemplation vs. contemplation/action) nor a continuous measure of readiness to change derived from the URICA predicted treatment outcome in a large sample of treatment-seeking substance abusers. Blanchard et al. concluded that their results call “into question the clinical relevance of existing stage-of-change measures” (p. 64).

Several studies do indicate that individuals in the precontemplation stage often show the most dropout and the least behavior change (e.g., Beitman et al., 1994; Scott & Wolfe, 2003). Perhaps not surprisingly, having no intention to change is associated with lack of change. This finding probably has little relevance for patients voluntarily seeking treatment or for randomized controlled trials (RCTs) of treatments for clinical disorders. Few patients actively seek treatment, persevere in the screening and then the often detailed pretreatment assessments, unless they have some thought about changing. Hence, the number of precontemplators voluntarily in therapy or in RCTs is likely to be very small (e.g., Treasure et al., 1999).

Even if it is accepted that baseline stage of change can be linked to outcome in some studies, it would remain to be determined how this putative predictor compares with other established and possibly
simpler predictors of outcome. For example, a test of the transtheoretical model in a CBT program aimed at cigarette smoking cessation showed that stage of change and the model's hypothesized change processes added little predictive value to outcome beyond that accounted for by demographic and smoking history variables (Carlson, Teunzer, Koopmans, & Casebeer, 2003).

2.7. Linking specific change strategies with different stages: the matching hypothesis

The stages of change model predicts not only that distinctive theoretical processes are associated with each stage, but that different interventions should be matched to specific stages to increase the likelihood that change will occur (Prochaska et al., 2002). Cognitive strategies are considered most useful for the early stages, whereas behavioral strategies are seen as appropriate for the later action and maintenance stages. Mismatch of patient stage and treatment strategy is predicted to increase patient resistance to change and to undermine therapeutic outcome. For example, Prochaska et al. (2002) believe that action-oriented behavioral interventions generally will not help someone in the early stages of change. In essence, stages are said to be moderators of change, namely, that there is a differential effect of stages in interaction with varying methods of change (Kraemer et al., 2002).

There is no logical or empirical mandate for selecting specific cognitive interventions for early stages of change (in which cognitive processes are claimed to be dominant) and selecting behavioral strategies for the later stages (when behavioral processes are said to be primary). Suppose, for example, that low self-efficacy is related to inaction in the contemplation stage of the model. Then, the most powerful and efficient means of strengthening self-efficacy and enhancing motivation would be via performance-based behavioral (Bandura, 1997), not cognitive, interventions.

If, as was argued above, the proposed stages are not qualitatively different from one another, it will, in any case, be difficult to match specific interventions to particular stages. Heterogeneity within hypothesized stages will similarly complicate any Stage × Treatment match. Weinstein et al. (1998) point out that the precontemplation stage includes a number of different individuals: those who are unaware of the problem, those unengaged by the problem, those undecided as to whether to change, and those who have decided not to act. Depending on their different intentions, these different individuals would potentially require different interventions. Similarly, in an analysis of noncompliance in cognitive therapy, Davis and Hollon (1999) distinguish between patients who show passive inaction and those who show active resistance. The psychological mechanisms responsible for these two sets of therapeutic problems differ, as do the necessary treatment strategies. Indeed, DiClemente and Velasquez (2002) have recently described at least four subcategories of precontemplators. However, the most useful response to the inevitable heterogeneity within categories may not be to generate subcategories within each stage that have not been empirically supported, but to focus instead on theory-driven and evidence-based determinants of change (Bandura, 1997; Davis & Hollon, 1999).

Empirical support for the matching hypothesis, a key prediction of the model, is conspicuously lacking (Littell & Girvin, 2002). Sutton (2001) could find only two experimental studies that compared matched and mismatched treatments for cigarette smoking, the behavior that has arguably been the focus of the most intensive research on the stages of change model. Neither study yielded clear support for the matching hypothesis.

In the area of substance abuse, the Project MATCH study provided an important test of the matching prediction in a large, well-controlled study of patients with alcohol problems (Project MATCH Research
3. Stages of change and the assessment and treatment of eating disorders

The foregoing analysis of the core assumptions of the transtheoretical stages of change model raises serious questions about its overall validity and clinical utility. The research undertaken so far on the transtheoretical stages of change model has primarily centered on problems such as smoking and drinking, which involve only a single behavior. Treating eating and weight disorders requires changing multiple behaviors, which further complicates the assessment of stages of change.

An appraisal of the sparse research literature on the applications of the model to eating disorders does little to mitigate the concerns raised by Littell and Girvin (2002) and others. Enhancing a patient’s motivation to change is clearly central to the effective treatment of anorexia nervosa and bulimia nervosa, which are known often to involve resistance to change. The empirical findings on the transtheoretical model to date, however, do not point to the transtheoretical model as an effective way to understand or increase motivation in patients with eating disorders.

Randomized trials provide a particularly powerful means of testing the model’s matching hypothesis because patients are randomly matched or mismatched to treatment based on putative personal attributes. The MATCH study discussed earlier is a prominent example. In another randomized trial, Treasure et al. (1999) assessed stages of change in a sample of 125 bulimia nervosa patients who were then randomly assigned either to CBT or MET. Contrary to the strong prediction of the model, the pretreatment stage of change was unrelated to dropout from the treatment. The small number of patients in the action stage at pretreatment showed a significantly greater reduction in binge eating, but not in purging, when compared with those in the contemplation stage. In this case, the stages of change model predicts a significant Treatment × Stage interaction. MET was designed to reduce ambivalence about change in the early stages, whereas the allegedly more action-oriented CBT was deemed more suitable for the later (action) stage. No such interaction was obtained. Nor did MET result in more patients moving into the action stage. Treasure et al. (1999) attempt to explain this negative finding by noting that patients were not matched to treatment according to the stage they were in, but randomly assigned. What this explanation fails to consider is that random assignment means that some patients were randomly matched to treatment and some were mismatched. In this study, there was both matching and mismatching of stages to treatment (e.g., CBT applied to patients in the early contemplation stage). The model clearly predicts more resistance, greater dropout, and less behavior change when interventions are mismatched to the patients’ stage of change. This prediction was not borne out. The results of this study challenge the validity and clinical utility of the stages of change model.
It should not go unnoticed that Treasure et al. (1999) found that the best predictor of dropout was whether patients had actually filled out the stages of change questionnaire. The reality may be that pragmatic “measures” of this nature predict outcome as well (or better) than elaborate theoretical structures do. Halmi et al. (2002), for example, reported that a brief, straightforward measure of motivation for change predicted relapse among patients successfully treated with CBT. Whether patients adhere to the treatment requirement of self-monitoring is a robust predictor of outcome in the behavioral treatment of obesity (Berkowitz, Wadden, Tershakovec, & Cronquist, 2003). A simple behavioral measure such as this one may prove more predictive than asking patients about their intentions to change.

In another large study of bulimia nervosa, Wolk and Devlin (2001) assessed 110 patients’ stage of change prior to treatment. These patients were randomly assigned to either CBT or interpersonal psychotherapy (IPT). Stage of change was assessed by adapting a commonly used algorithm (DiClemente et al., 1991) that assigns patients to the precontemplation, contemplation, or preparation stage based on their stated intentions to change a behavior, which, in this case, was defined as stopping binge eating and purging. As in the Treasure et al. (1999) study, stage of change was not significantly related to dropout. Among the completers of treatment, stage was associated with outcome. Within-treatment analyses revealed that stage was related to outcome only in IPT. This is a novel finding that is not predicted by the model. According to the model, CBT should have led to better outcome for participants in the later, as opposed to the earlier, stages of change, but it did not.

Two other studies failed to find support for the stages of change model. An investigation of 99 predominantly anorexia nervosa patients found that the stages of change questionnaire (McConnaughey et al., 1983) did not predict dropout from an intensive day treatment program (Geller, Cockell, & Drab, 2001). Similarly, an adaptation of the stages of change questionnaire did not predict weight gain in a sample of 62 hospitalized anorexia nervosa patients (Levy, Lucks, & Pike, 1998). In contrast, Franko (1997) treated 16 bulimia nervosa patients with group CBT and found that those in the action stage were more likely to decrease their binge frequency than were those in the contemplation stage. Rieger et al. (2000) developed a measure, the Anorexia Nervosa Stages of Change Questionnaire, that predicted weight gain in a study of 71 inpatients with anorexia nervosa. The measure, however, assesses stage of change for a number of different behaviors rather than assigning a patient to a single stage.

In the Geller et al. (2001) study, the RMI for eating disorders was related to dropout. The RMI uses only three different stages: precontemplation, contemplation, and action/maintenance. The measure is not based on a true stage model because patients are allowed to be in multiple stages with respect to their readiness to change a symptom rather than in only one stage. The interviewer and patient create a readiness profile for each of as many as 12 different symptoms, including restraint over eating, self-induced vomiting, and laxative misuse. For each symptom, the interviewer and patient determine what percentage of the patient is in the precontemplation, contemplation, and action stage so that the three scores together add up to 100%. Whatever pragmatic utility the RMI may provide, the available data offer scant support for the stages of change model. The conceptual confusion caused by placing patients in more than one allegedly nonoverlapping stage is noted earlier in this paper (Littell & Girvin, 2002; Sutton, 1996). Sullivan and Terris (2001) point out the obvious problem for the seminal stage-matching prediction of the model, namely, that “interventions cannot be adapted to the relevant stage of change if clients appear to be in all of them” (p. 289).
To conclude, assessments of stages of change in eating disorders to date have shown that anorexia nervosa patients appear less motivated for change than bulimia nervosa patients are (Blake, Turnbull, & Treasure, 1997) and that more motivated bulimia nervosa patients tend to do better on some outcome measures than their less motivated counterparts do (Treasure et al., 1999). These findings are neither novel nor unexpected. As with the research on the clinical utility of the stages of change model in general (Littell & Girvin, 2002), the literature provides little or no support for matching eating disorder treatments to stages of change.

4. Stages of change and weight control treatment

A large prospective study relating stages of change to weight loss outcome over a three-year period failed to provide any support for the model (Jeffery, French, & Rothman, 1999). As the authors note:

The predicted monotonic relationship between stage of change and future weight change was not observed at any time point. Indeed, although not statistically significant, the observed relationship was the reverse of that predicted (i.e., women in the Action stage gained more weight than those in the Precontemplation stage at each time point) (p. 545).

Two other studies yielded mixed results. Macqueen, Brynes, and Frost (2002) failed to show that the stages of change model predicted weight loss among obese patients. However, studying a small sample with a short-term, 10-week outcome, Prochaska, Norcross, Fowler, Follick, and Abrams (1992) found that stage of change at pretreatment was related to amount of weight lost.

5. Motivational interviewing and motivational enhancement therapy

A patient’s motivation to change is vital to the success of psychological treatment. Anorexia nervosa provides perhaps the classic example of a clinical disorder that is notoriously difficult to treat, in part, because patients with the disorder experience a lack of motivation—if not resistance—to change (Gamer & Garfinkel, 1997; Vitousek et al., 1998). Bulimia nervosa also is often marked by varying degrees of motivation and ambivalence about change. If psychological treatments are to be maximally effective, they must include empirically supported strategies for reinforcing and enhancing patients’ motivation to change.

The stages of change model has been linked to the development of MI and its derivative MET (Miller & Rollnick, 2002; Miller, Zweben, DiClemente, & Rychtarik, 1992; Treasure et al., 1999). MI is defined as “a client-centered, directive method for enhancing intrinsic motivation to change by exploring and resolving ambivalence” (Miller & Rollnick, 2002, p. 25). MI was developed initially within the context of alcohol-dependence treatment as a counter to the classic addiction model of directly confronting patients and framing their resistance to change as denial (Miller, 1983). MI has since been shown to be an effective intervention across a range of different health-related behaviors (Burke, Arkowitz, & Dunn, 2002; Burke, Arkowitz, & Menchola, 2003).

DiClemente and Velasquez (2002) discuss how the model has played “an integral role in the development of motivational interviewing” (p. 202) and has been a “natural fit” (p. 203). Two reasons
are advanced. First, MI is thought to deliver the motivation required to move individuals through the different stages of change. Second,

The most obvious connection between motivational interviewing and the stages of change is that motivational interviewing is an excellent counseling style to use with clients who are in the early stages. Precontemplators do not want to be lectured to or given “action” techniques when they are not ready to change. Likewise, contemplators, who are considering the possibility of making a change but are not quite ready to make a commitment, are resistant to more traditional approaches that encourage (or try to force) them to make changes for which they are not yet ready (DiClemente & Velasquez, 2002, pp. 202–203).

Although the stages of change model and MI have been commonly linked, there is no inherent theoretical or empirical connection between the two. Furthermore, the efficacy and clinical utility of MI does not hinge on the validity of the stages of change or broader transtheoretical model. Indeed, distinctive features of MI are arguably at odds with the core concepts of the stages of change model.

DiClemente and Velasquez (2002) link MI to the stages of change model because they believe that MI is useful in the precontemplation and contemplation stages, as the foregoing quote makes clear. However, they themselves note that MI is also helpful in the later stages of therapy. In short, MI may be useful at any time, regardless of any artificially imposed stage. Underscoring this point, Rollnick and Miller (1995) have emphasized that “readiness to change is not a client trait, but a fluctuating product of interpersonal interaction” (p. 327). Similarly, although Treasure and Schmidt (2001) link MET to the stages of change model that they endorse, they state that “readiness to change is often rather fluid and can wax and wane within and between sessions” (p. 7). This view of fluctuating motivation is inconsistent with the concept of readiness being chopped up into discrete stages.

Empirical findings also fail to establish any necessary link between the efficacy of MET and the transtheoretical stages of change model. Burke et al. (2002) observe:

There is little direct evidence thus far to suggest that AMIs [adaptations of MI] actually work by enhancing motivation or readiness for change. While AMI clients generally showed an increase in readiness for change after treatment...the AMI interventions...did not appear to differentially increase readiness for change in comparison to alternative interventions or controls...Furthermore, none of these studies performed statistical analyses to determine whether this motivational shift actually mediated client outcome (p. 245).

5.1. MI in the treatment of eating and weight disorders

Miller and Rollnick (2002) argue that MI “is intended to instigate change. For some people, this is all they need” (p. 27). The evidence supports this assertion. MI has been found to be an effective “stand alone” intervention. Comprehensive analyses of the literature have shown that MI is as effective as alternative active treatments and is more effective than placebo or no treatment for problems such as substance abuse (Burke et al., 2003; Zweben & Zuckoff, 2002). It is reasonable to expect that MI alone might be effective with at least a subset of patients with eating or weight disorders, particularly those who need little external persuasion to cease self-destructive behavior.
Treasure et al. (1999), as discussed above, randomly assigned bulimia nervosa patients to four sessions of either MET or CBT. The two groups showed similar reductions in binge eating and purging at the end of this short period. The absence of a control condition, however, makes it difficult to interpret these short-term findings. The dropout rate was (nonsignificantly) higher in MET (33%) than in CBT (24%). The prediction that MET would differentially engage patients early in the treatment process was clearly not supported by these findings.

In another study of MI as a sole treatment of eating behavior, Mhurchu, Margetts, and Speller (1998) compared a three-session AMI intervention with standard dietary advice in the treatment of patients with hyperlipidemia. Both interventions produced significant and comparable weight loss.

In addition to being used as a stand-alone intervention, Miller and Rollnick (2002) describe two other applications for MI. One is using MI as a precursor to some other treatment. Presumably, the subsequent treatment would be one that does not focus explicitly on enhancing commitment to change. For example, Dunn (2003) has reported that a single session of MI prior to a pure self-help intervention resulted in significantly greater reduction of binge eating in college students than the self-help intervention alone.

As discussed above, Wolk and Dcvin (2001) found that the algorithm stage of change measure predicted outcome in IPT but not CBT. The explanation for this finding may be that whereas CBT explicitly addresses motivation to change, IPT, at least as administered in that study, may not. If this hypothesis is correct, it may prove helpful to use MI in conjunction with a form of psychotherapy that does not explicitly focus on enhancing commitment to change at the outset. MI might also be used as a precursor to antidepressant medication in the treatment of bulimia nervosa and binge eating disorder. Miller and Rollnick (2002) point out that the efficacy of MI is apparently unaffected by the nature of the following treatment, even if it is one that is “confrontive and overtly directive” (p. 28).

Behavioral weight control programs have typically been standardized group interventions that are more akin to psychoeducation than psychological therapy (Cooper, Fairburn, & Hawker, 2003). As such, they have not usually included explicit strategies for enhancing motivation to change along the lines of MI. DiLillo, Ziegfried, and West (2003), therefore, have recommended that MI be combined with traditional weight loss programs.

The sparse data on this issue are mixed. Smith, Heckemeyer, Kratt, and Mason (1997) reported that adding three sessions of MI to a behavioral weight control program for patients with Type 2 diabetes resulted in significantly better adherence to treatment and superior glycemic control compared with the weight loss program alone. However, adding MI to the weight control program did not result in significantly greater weight loss. A second study of patients with hypertension (Woolland et al., 1995) compared an AMI lifestyle intervention with a control group. The former resulted in greater short-term weight loss and blood pressure reduction than the latter did. However, the study is confounded because the AMI group also received behavior modification, whereas the control group did not.

Another application of MI would be to integrate it with a separate intervention throughout the course of treatment. MI could then be introduced whenever “new motivational challenges may be encountered...as more difficult phases of treatment are reached” (Miller & Rollnick, 2002, p. 28). This form of treatment overlaps with the strategies of CBT.

5.2. Motivational interviewing and cognitive behavioral therapy

CBT is sometimes wrongly seen as a rather narrow “skills training” treatment for immediate behavioral change, which assumes that the patient is already motivated. Thus, CBT is sometimes
believed to be a good match for a motivated bulimia nervosa patient in the action stage but inappropriate for someone in the earlier stages who requires motivation enhancement (Herrin & Matsumoto, 2002; Reindl, 2001). This view seriously misrepresents CBT. Although there are some conceptual and technical differences between CBT and MI, the overlap between the two approaches is considerable. Here, we summarize briefly some of the common principles and strategies.

5.2.1. Conceptualization of motivation

In CBT, motivation is not a fixed thing—be it trait, stage, or any other fairly static entity. Rather, motivation waxes and wanes as a function of shifting personal, cognitive, behavioral, and environmental determinants (Bandura, 1986; O’Leary & Wilson, 1987)—just as Miller and Rollnick (2002) and Treasure et al. (1999) note, speaking for MI as quoted above. Given this dynamic view of motivation, a patient’s motivation may require continual attention over the course of treatment (Marlatt, 1985).

5.2.2. Therapist style

The therapist style in interacting with the patient is a defining feature of MI. Collaboration is a core characteristic. The same is true of CBT. Suffice it to note here that the CBT style is collaborative as opposed to confrontational (Meichenbaum & Gilmore, 1982; O’Leary & Wilson, 1987; Wilson, Fairburn, & Agras, 1997). Due to its strong collaborative bent, CBT has been credited with more successfully circumventing problems with patient resistance than alternative psychotherapies (Guidano & Liotti, 1983). CBT emphasizes the Socratic method (Beck, Rush, Shaw, & Emery, 1979; Piasecki and Hollon, 1987). Expanding on this point, Vitousek et al. (1998) stated that “motivational interviewing is essentially a strategy for operationalizing the Socratic method to mobilize commitment to change” (p. 400).

5.2.3. Guiding principles of MI

5.2.3.1. Principle 1. MI emphasizes the importance of expressing empathy and communicating an attitude of acceptance. CBT also stresses the importance of validating the patient, but within the framework of a balance between acceptance and change, firmness, and empathy (Fairburn, Marcus & Wilson, 1993; Linehan, 1993; Wilson, 1996).

5.2.3.2. Principle 2. MI seeks to develop a discrepancy between the patient’s current maladaptive state and a more adaptive alternative. Derived by Miller (1983) from the Janis and Mann (1977) research on decision making, “change is facilitated... by communicating in a way that elicits the person’s own reasons for and advantages of change” (Miller & Rollnick, 2002, p. 24). Within CBT, Marlatt (1985) independently drew on the Janis and Mann (1977) approach in formulating what he called the “decision matrix.” This matrix was a systematic means of motivating change by prompting alcohol-dependent patients to think through the relative pros and cons of either changing or accepting their status quo. In a related vein, Beck et al. (1979) had earlier developed the cognitive therapy technique of facilitating change by using the Socratic method to help patients think through the advantages and disadvantages of a particular belief or behavior.

Gamer and Beinis (1982) were the first to extend this strategy to the treatment of anorexia nervosa to overcome resistance to change. This functional analysis of the pros and cons of a belief or behavior has become a part of CBT for bulimia nervosa (Wilson & Pike, 1993; Wilson et al., 1997) and has been elaborated upon in the treatment of anorexia nervosa (Vitousek & Ewald, 1993).
5.2.3.3. Principle 3. MI encourages therapists to “roll with resistance.” Resistance to change is “not directly opposed” by the therapist but is instead seen as “a signal to respond differently” (Miller & Rollnick, 2002, p. 40). In CBT, resistance is similarly not opposed with confrontation, but with a collaborative examination of the variables maintaining the problem behavior. Resistance is the target of a functional analysis, which has been a bedrock of behavior therapy since its beginning. In a modern instantiation of this guiding philosophy, Martell, Addis, and Jacobson (2001) emphasize that the “therapist always thinks functionally and contextually. The therapist...should be asking...‘What are the conditions occasioning this behavior (the context) and what are the consequences of this behavior for the client (the function)?’” (p. 106).

5.2.3.4. Principle 4. The goal of MI is to support self-efficacy. Self-efficacy is, of course, a seminal component of Bandura’s social learning theory (Bandura 1978), which has been one of the main theoretical foundations for the development and growth of CBT (O’Leary & Wilson, 1987).

5.3. Implications

The commonality between MI and CBT might explain the Wolk and Devlin (2001) finding that bulimia nervosa patients’ pretreatment stage of change was unrelated to outcome in the CBT condition. By definition, competently administered CBT focuses on enhancing motivation in ambivalent patients. For similar reasons, it is not surprising that Treasure et al. (1999) found no difference in the readiness to change between those given four sessions of MET and those given four sessions of CBT.

DiLillo et al. (2003) have advocated adding MI to “traditional behavioral weight loss programs” (p. 120). The rationale they give is twofold: First, that MI addresses ambivalence about change that behavioral treatment allegedly does not, and second, that MI allows the tailoring of treatment to patients’ individual goals better than behavioral treatments do. The latter contention is debatable, especially in behavioral weight loss treatments conducted on an individual basis (e.g., Diabetes Prevention Program Research Group, 2002). The recent extension of CBT for eating disorders to obesity (Cooper et al., 2003) explicitly focuses on overcoming ambivalence. Well-established principles for enhancing motivation and promoting greater acceptance of realistic loss goals are the core elements of this CBT. Ultimately, whether combining MI with CBT enhances the efficacy of CBT remains an empirical question. The foregoing analysis demonstrates not only the conceptual compatibility but also the procedural overlap between CBT and MI. Nevertheless, the distinctive therapeutic style and well-defined clinical procedures of MI are not necessarily inherent in the routine practice of CBT. As in the integration or appropriate sequencing of any treatments, caution should be exercised in ensuring that neither redundancy nor procedural or conceptual incompatibility results.

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References


