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Readiness and Stages of Change in Addiction Treatment

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Understanding the role of personal motivation in addiction treatment changed with the advent of the Transtheoretical Model of intentional behavior change, a better understanding of relapse, and a shift in focus from denial to readiness. Motivation is a complex concept that covers many diverse aspects of the process of intentional behavior change. This review examines current perspectives on readiness and the stages of change, criticisms and measurement issues, and clinical applications and future research in this area. Although significant challenges remain, properly incorporating the concepts of readiness and the stages of change into addiction treatment enables providers to address the diverse needs of substance abusers and treatment seekers, supports more proactive interventions, creates a concentration on motivational enhancement, and helps researchers understand the larger process of change where addict and treatment provider meet. Better measurement, more frequent assessments, and a better understanding of the stage subtasks and how they relate to readiness and successful change are needed to deepen our understanding of motivation and its role in the treatment of addiction. (Am J Addict 2004;13:103–119)

The focus of addiction researchers and practitioners has shifted from *whether* addicted individuals change to *how* they change. Understanding the process of change helps us ascertain key influences that promote change and increase recruitment, retention, and the successful cessation among substance abusers. Although complicated by physiological and psychological dependence, an abuser's motivation and intentions represent a critical part of the process of recovery and healing. Thus, motivation plays an important role in recognizing the need for change, seeking treatment, and achieving successful, sustained change for all substance abusers. In general, motivation refers to the personal considerations, commitments, reasons, and

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intentions that move individuals to perform certain behaviors. Addicted individuals appear to be pushed or coerced at times by these motivational forces, but at other times pulled or led by them. Nonetheless, intentional human behaviors are considered to be motivated, whether one's theoretical perspective views behavior as shaped by contingencies, driven by unconscious motives, or directed by self-regulation.[1,2] Prior attempts to identify and assess the motivations that underlie both addiction and recovery reach back to the beginnings of psychological science[3] and basic conceptualizations of addiction.[4–6] However, more recent discussions of motivation have used the concepts of stages of change, readiness to change, and readiness for treatment. These concepts are related but not entirely interchangeable.

The stages of change represent one of the fundamental dimensions of the Transtheoretical Model (TTM) of intentional behavior change, developed by Prochaska and DiClemente.[1,7–9] The underlying perspective of the stages of change is that there is a multidimensional process of intentional behavior change that extends from the establishment of a stable pattern of abuse to the achievement of significant sustained change of the addictive behavior.[1] The road that individuals traverse in order to change an established addictive behavior pattern is described in five stages, beginning with the *Precontemplation* stage, where addicted individuals have little or no current interest in considering change. Once concern and a sense of vulnerability reach them, these individuals can move through the stages of *Contemplation* (a risk-reward analysis leading to decision-making), *Preparation* (involving commitment and planning), and then to *Action* (taking specific steps to implement the plan), before arriving at the *Maintenance* stage, where the new behavior becomes normative. Maintenance becomes the final stage in the transition to recovery and establishes a new pattern of behavior that ultimately can lead to the termination of the change process.[10] Movement back and forth, as well as recycling through the stages, represents a successive learning process whereby the individual continues to redo the tasks of various stages in order to achieve a level of completion that would support movement toward sustained change of the addictive behavior.[1]

Motivation is viewed as an important component throughout the entire process of change. The stages of change specify motivational demands by segmenting the change process into specific tasks to be accomplished and goals to be achieved, if movement toward successfully sustained change is to occur. Each of the multiple tasks encountered on the road to recovery require effort, energy, and "motivation" on the part of the addicted individual. Successful change of an addiction represents a resolution of each stage's tasks in a way that supports engagement in the tasks of the next stage.[1]

Readiness is a more generic concept than stages. Readiness typically indicates a willingness or openness to engage in a particular process or to adopt a particular behavior and represents a more pragmatic and focused view of motivation as preparedness. Research has evaluated two distinct but related aspects of readiness: *readiness to change* and *readiness for treatment*. Readiness to change has been conceptualized by some as a combination of the patient's perceived importance of the problem and confidence in his or her ability to change.[11,12] Motivational readiness to change has also been described using the tasks of the stages of change in order to suggest intervention strategies[13,14] and measure motivation to change drinking behavior.[15–17] In fact, the specific measure of readiness to change used in Project MATCH consisted of a summary of scores derived from separate subscales representing the precontemplation, contemplation,

action, and maintenance stages to form a single readiness to change score.[18,19]

Readiness for treatment, on the other hand, focuses on motivation to seek help, preparedness to engage in treatment activities, and how they impact patient treatment attendance, compliance, and outcome. Several studies have demonstrated the importance of motivation for treatment among substance-abusing patients in predicting treatment participation and recovery.[20–23] There is growing research both in therapeutic communities and other treatment settings indicating that motivation or readiness for treatment is related to attendance at treatment and positive outcomes.[21,22,24,25] In fact, Simpson and colleagues have identified motivation to seek help as an important predictor of treatment outcome among a very heterogeneous sample of substance abusing patients.[26,27] Generally, greater attendance at and compliance with treatment predict better behavioral change outcomes. However, the relationship between compliance and change is not always significant, and not all treatment dropouts fail to change their addictive behaviors.[28]

It seems that readiness to engage in and comply with treatment recommendations as well as the motivational readiness of a client to change are both important indicators for assessing treatment participation and outcomes. However, readiness or receptivity for treatment and readiness to change are not necessarily equivalent concepts in theory or practice. Individuals can come to treatment and be open to participating in treatment without being ready to abstain from alcohol and drugs. Several studies have been able to identify individuals entering alcohol and substance abuse treatment with very different profiles on the stages of change measure in the University of Rhode Island Change Assessment scale (URICA).[29–32] Other studies using a measure called the Stages of Change, Readiness, and Treatment Eagerness Scale (SOCRATES) have identified Problem Recognition and Taking Steps as important dimensions of personal motivation that differ on entry to treatment.[33–35] Thus, individuals entering treatment differ on important dimensions related to motivation and to the tasks identified in each of the stages of change, whether they are entering residential or outpatient drug treatment programs.[21,23,24]

Although logically assumed to be associated, readiness for treatment and readiness for change are not simply opposite sides of the same coin. In initial analyses of Project MATCH data, we found participants who appeared to have high scores on the readiness to change measure but low scores on a readiness for treatment subscale derived from the Alcohol Use Inventory and vice versa. Although the majority of outpatients in this research treatment were consistent with higher or lower scores on both receptivity for treatment and readiness for change, 20% or more showed some inconsistency between these two types of readiness.[36,37] When comparing the predictive ability of readiness for treatment with that of readiness for change, it appeared that for outpatient participants, their readiness to change was slightly more important as a predictor of posttreatment drinking. However, participants who expressed more receptivity to help *and* greater readiness for change had the best outcomes. Although readiness for treatment is an important motivation dimension, the remainder of this article will focus on the research related to the stages of change and readiness for change.

MEASURING MOTIVATION IN TERMS OF THE STAGES OF CHANGE

Understanding motivation in terms of the stages of change is conceptually appealing and has been adopted by many clinicians and researchers as a template through which to view the change process.[38]

However, the measurement of stages of change poses some problems for the practitioner and researcher: how to assess stage status of individuals with different substance abuse problems and in different types of programs has created significant frustration.[39,40] Definitional and measurement problems have also led some to question the importance of the stages and their relevance to treatment outcomes and treatment behaviors.[29,41–45] Some critics point to inconsistencies in measurement across studies; others have indicated that stage measures like the URICA yield varying numbers of profiles that do not reflect the existence of the five stages of change.[39] There is also a debate as to whether motivation or readiness to change is best conceptualized as a continuum or by discrete stages.[8]

Critics have reason to be concerned and confused. The Transtheoretical Model has been developed over time and reflects ongoing thinking about the process of behavior change in addictions and in other health behaviors. Segmenting this process into discrete steps is by nature problematic because the specific tasks described in each of the stages are linked and interactive throughout the process of change. Decision-making, for example, is primarily defined as a contemplation task that involves a personal evaluation of the pros and cons for change. However, the strength of an individual's decision to change plays an important role in the subsequent tasks of commitment and planning represented as preparation stage tasks and in initiating behavioral changes that occurs in the action stage. Moreover, once the change is made and sustained over time, the nature of the initial decision to change becomes less relevant and shifts from a primary focus on the problem behavior to considerations of the benefits of the new lifestyle. Cognitive processes of change also become less important and behavioral processes more salient as the individual moves from preaction stages to action and maintenance. There is both continuity and discontinuity in the process of behavior change,[8,46,47] thus, the operational definition of stages will always be to some degree arbitrary in terms of where to draw the line and which tasks to define as separable, distinct tasks that support a separate step in the process of change.[1] Could more stages or subdivided stages be identified? Without question, and some researchers have attempted to do so.[48–50] It is also clear that individuals within a stage can be subclassified or categorized.[51,52] We have identified five stages because these five seem to be steps that we could conceptually define and find some way to measure, and yet that also seemed to differentiate among change activities and markers of change.[1,8]

Measurement of these five stages has presented significant challenges across the various addictive and health behaviors. Multiple measures have been used to classify individuals into stages, including categorical algorithms, ladders or rulers, self-reported stage on a multiple behavior grid, and multiple item/multiple subscale questionnaires like the URICA,[53] SOCRATES,[33] and Readiness to Change Scales.[8,15,18] The good news is that many different measures have been able to divide the population of changers into subgroups that make sense and are consistent with the description of the five stages.[30,32,54–56] However, the bad news is that no consistent, single measure of stage status has been used with even one addictive behavior like smoking cessation, let alone across all addictive behaviors. It is also significant that the different measures do not always cross-classify the same individuals into the exact same stage of change.[39,40,57–59]

These multiple measures of stage status are a mixed blessing. The fact is that these different measures have been used to divide populations of smokers, drinkers, and drug users into subgroups that are alike on some change dimensions and significantly

different on others. These findings provide strong support for the segmentation of the process of change and the existence of some underlying structure, like distinct stages or steps of change. These assessments create ways to identify whether the individual is in earlier or later segments of the process of change. Some measures are used to create stage subgroups; others simply identify individuals who are more or less ready to change. However, whether one uses continuous measures or stage-based classifications, individuals earlier in the process differ reliably from individuals in later stages on measures of change process activity, decisional considerations, and self-efficacy.[19,30,31,54,60–64] Although measuring these stages for different behaviors has proved challenging, different measures have identified individuals at different points in the process of change with many addictive and health behaviors and have contributed to our understanding of the process of change.[8] However, measures, measurement, and the quality and quantity of research vary greatly across different addictive behaviors. Examining measurement and predictions in different behaviors can be instructive, so we will examine how stages and motivational readiness have been operationalized and what we have learned about the process of change with different addictive substances.

Nicotine Addiction

The earliest attempt to understand readiness and segment the process of change into stages used smoking cessation as the target behavior change. This research brought together Prochaska's attempt to identify an integrative set of processes of change from psychotherapy and behavior change literature[65] with DiClemente's attempt to measure and use these change principles to understand successful smoking cessation among self-changers and treatment seekers.[66,67] For over fifteen years, subsequent joint research created and evaluated various dimensions of this Transtheoretical Model and developed assessments with smokers who were simply assessed and followed through the process of unaided self-change[7,61,68–74] and those who were given an intervention.[54,75–77] In all this research, stage status was assessed using several questions that created an algorithm updated to accommodate research findings and the development of the model.[54] This simple and straightforward method first asked lifetime smokers (100 cigarettes or more) whether they were smoking currently or not. If they were not smoking, they were asked how long ago they had quit. If former smokers had quit fewer than six months in the past (a timeframe suggested by relapse curves across addictive behaviors), they were classified into the action stage. If they had quit more than six months ago, they were classified as in the maintenance stage of change. If individuals were smoking, on the other hand, they were asked several additional questions, such as "are you seriously considering quitting in the next six months," "are you planning to quit in the next 30 days," and "have you made an attempt to quit smoking for at least 24 hours in the past year." Smokers not considering quitting in the next six months were placed in the precontemplation stage. Those who said yes to seriously considering and planning to quit in the next 30 days and who had made a quit attempt in the past 6 months were considered in the preparation stage. All others were considered in contemplation. This rather simple method of assigning stage worked well to create categorical groupings of individuals that differed in logical and consistent ways on a number of related change constructs, like self-efficacy to abstain from smoking across tempting situations,[71,78] the pros and cons of decisional balance,[63,79] and experiential and behavioral processes of change.[73,80–82] Although some studies

have been critical of the classification system and question the ability of stage status to predict long term outcomes,[83,84] others have supported its usefulness and the psychometric soundness of this method of assigning stages of change.[58,85–87]

It became clear, however, that movement through the stages of smoking cessation was not linear. Although some smokers could spend significant periods of time in a single pre-action stage like contemplation, many moved back and forth, cycling and recycling through the stages.[9,52,88] This complicated the assessment. Current stage status and the frequency and level of success the smoker experienced when they cycled through the stages became important considerations. If movement through the stages is viewed as learning through successive approximations, enabling an individual to complete more successfully the tasks of each of the stages as they recycle, then what they have done in the past in terms of cessation success is important for understanding current status and future success. This was the rationale behind using a quit attempt in the past year as part of the preparation stage assessment when studying veteran smokers,[54] although this definition would be illogical if used to define the preparation stage for individuals making their first attempt to quit smoking.[8,44] Some researchers have incorporated recycling success into their definition of addiction and then contrasted addiction with a baseline measure of stage status to argue that addiction (measured by past attempts and length of past abstinence) predicted successful cessation after two years better than initial stage status.[83,84] However, the argument is a bit circuitous because the current stage status of each individual is always influenced and tempered by prior attempts to move through the stages and how well each of the stage tasks has been or is being accomplished.[1,46,47,89] Knowing both where an individual currently is in terms of stage tasks and how often and with what success he has recycled through the stages is important clinically and for our understanding the process of change. Current stage status represents a changeable state rather than a static trait.

We have learned a great deal about the stages and the process of change in this research on smoking cessation. The initial stage status of a smoker who is simply followed over time or given self-help materials does relate to probability of successful change.[8,54,75] Stage status is changeable over time, and it is important to take both short-term and long-term longitudinal perspectives when trying to understand and evaluate the process of change.[9,74,88] Many of these studies were done with large groups of participants followed over significant periods of time, and they support the reality of recycling and the efficacy of repeated attempts to quit for some smokers. We have also been able to see that smoking cessation is not necessarily the same as quitting in a sample of pregnant women who stopped smoking for the pregnancy,[90] and that shifting the process activity from cognitive to behavior processes as one moves into action produces more abstinence.[82] We have also demonstrated that it is possible to recruit and engage smokers in early stages of change into research projects and interventions programs.[8] However, although we have demonstrated that interventions can reach and assist smokers from all of the different stages of change, we have not been able to demonstrate differential effectiveness for any specific intervention with smokers in a single stage of change. Nevertheless, the stages have been seen as a guide for talking about change from a practical perspective. Many programs and interventions use the stages perspective to aid in the development of self-help materials, counseling protocols, and healthcare-based smoking cessation programs.[10,91–93]

Alcohol Abuse and Dependence

Applying the TTM and the stages of change to alcohol problems has produced an extensive series of studies and highlighted other assessment problems and change process issues. Attempting to assess readiness and the stages of change in mental health and alcoholism treatment clinics is more difficult than was true for smoking cessation. Unlike smokers, individuals with psychiatric and/or substance abuse problems who come to treatment programs often are not as open about their intentions to change, underestimate the existence and nature of the problem and their ambivalence about change, overestimate their readiness to change, or simply tell treatment providers what they believe they must in terms of where they are in the stages of change. For these reasons, more subtle measures were developed to assess stage status and evaluate patients entering mental health[53,94] and alcoholism treatment clinics.[31]

The University of Rhode Island Change Assessment Scale (URICA) consists of items reflecting attitudes and experiences related to the descriptions and tasks of the different stages of change. It was designed for individuals entering treatment and cast in a generic form so it could be used with a wide range of problem behaviors.[94] Although items were selected initially to represent five stages of change, including the determination/preparation stage, psychometric analyses of the measure supported only four distinct subscales, labeled precontemplation, contemplation, action, and maintenance (These items reflect a struggle to maintain a change.). Individuals were asked to endorse these items on a 5-point Likert scale that ranged from strongly agree to strongly disagree. This scale yielded four subscale scores that were then used to assign stage status. In all studies that use the URICA, the four subscale scores are significantly skewed so that contemplation, action, and maintenance scores are usually highly endorsed and precontemplation scores are always underendorsed. Thus, it is not possible to simply use the highest scale score to assign stage. A more sophisticated method of clustering individuals based on their patterns of scores across the four subscales was used to create stage-based subgroups. These subgroups were then labeled according to the pattern of scores.[30,31] The modified 28-item version of the URICA that targeted abstinence from alcohol identified five cluster subgroups in the first study.[31] The Carney and Kivlahan[30] study identified similar patterns but only found four cluster groups. The three largest groups seemed to align with the stages of precontemplation, contemplation, and preparation. The other two groups seemed to be variants of these stage groups: one a group of precontemplators who seemed very discouraged about the prospects of change (depressed/discouraged profile), and the other a group that could be either precontemplators or contemplators who seemed very ambivalent about change (ambivalent profile).[31] These subgroups related in logical and expected ways to other variables in these and a variety of studies focusing on substance and alcohol abuse.[29,95–97] However, many of these studies have not provided extensive support for predictive validity. Large samples are needed if clustering is to be used; otherwise subgroups have very small numbers of participants, and statistical power to predict is compromised.

Miller and colleagues[33] took a similar assessment approach to evaluate motivation in creating the SOCRATES (Stages of Change, Readiness, and Treatment Eagerness Scale). They used items similar to the URICA, made them alcohol- or drug-specific, and again added items that could represent a subscale for determination (the preparation stage precursor). The factor structure for this measure, however, did not support all the stage

subscales, and currently this measure is used to assess problem recognition (precontemplation and determination items), taking steps (action items), and ambivalence (contemplation). Although not clearly identifying stage status, this scale identifies subtasks related to the stage tasks and finds them related to other variables in a logical and consistent manner.[33,35,98] To date, support for predictive validity has been modest.[34,99]

Groups formed by clusters are interesting but make for complicated data analysis. The information is also difficult to access and use in clinical settings because profiles of scores must be interpreted and compared to those of some larger group. To address this concern and create a single score with which to measure motivation for Project MATCH, we evaluated the second order factor structure of the URICA and created a motivational readiness score based on the URICA subscales that reflected this second order factor.[18,19] Summing the average contemplation, action, and struggle to maintain subscale scores and subtracting the precontemplation average score created a motivational readiness score that could range from −2 to +14, with higher scores indicating greater readiness to change. These scores paralleled the profiles found in prior research, with the lowest scores representing the discouraged precontemplator and the highest scores the preparation/participation profile groups.[18] This was the metric that was used in the primary motivational hypothesis in Project MATCH. These motivational readiness scores were predictive of drinking outcomes at the one- and three-year follow-up among outpatients but not among aftercare patients.[16,17] It also predicted patients' working alliance scores[100] and was related to patient processes of change[19] as well as outpatient outcomes. Of all the outpatient characteristics measured, patient motivational readiness was one of the strongest predictors of frequency and intensity of drinking outcomes.[101] A second measure of alcohol-specific readiness to change derived from the SOCRATES yielded similar findings[102] for outpatients. Motivation to change, as measured by stage-based assessments at baseline, proved to be a robust predictor of quantity and frequency of drinking at the one- and three-year follow-up period.

An in-depth analysis of this readiness score and its relation to changes in drinking indicated that patient endorsement of the four subscale scores of the URICA shifted from the beginning to the end of treatment but not in totally expected ways. As individuals moved through treatment and into the post-treatment period, many achieved a substantial modicum of abstinence.[19,64] On entry to treatment and prior to achieving significant reductions in drinking, URICA scores that represented a preparation stage profile with individuals having lower precontemplation scores along with higher scores on the contemplation, action, and struggle to maintain subscales indicated greater readiness to change and predicted therapeutic alliance and drinking outcomes. However, as drinkers gained some measure of abstinence and progressed in treatment, their attitudes related to the tasks of the stages of change and their alcohol problem shifted. At the end of treatment, patients with high action scores and low scores on the struggle to maintain subscale had the best outcomes.[64] These patients also had higher abstinence self-efficacy and less temptation to drink, and they used more behavioral processes of change than comparison patients with poorer outcomes.[19,64] Thus, the readiness score derived from the URICA can be used prior to treatment to predict drinking outcomes. However, when the scores from the URICA are being used to indicate progress during treatment or as end-of-treatment predictors of drinking outcomes, action and maintenance subscale scores and not the readiness score should be used.[19] It is important to remember that

these subscales scores represent attitudes and activities related to the stages of change and not precisely stage status. Items in these subscales, however, tap into important dimensions of the process of change. The shifts in subscale scores, with some increasing and decreasing over time, support the notion that motivation and the process of change is not represented accurately by a linear, continually increasing, single variable. As individuals successfully accomplish the tasks of the different stages, they shift focus and change attitudes and activities related to the process of change.[1,8,9,64]

Another interesting discovery that was made while using the URICA to assess readiness in Project MATCH was that baseline readiness scores were more predictive when assessed in the outpatient arm compared to the aftercare arm of the trial.[16,17,102] For patients who were assessed during their inpatient or intensive outpatient treatment prior to their entry into aftercare, the motivational readiness scores derived from both the URICA and the SOCRATES were not predictive of drinking outcomes. It appears that the evaluation of motivation and stage of change was more difficult to obtain when patients were in restricted environments, where abstinence was supported by the setting and there was a lack of access to alcohol.[1,19] Once these patients completed their aftercare treatment, however, they appeared to be very similar to the outpatients at the end-of-outpatient treatment in how their scores on the URICA, self-efficacy, and processes of change related to stopping drinking predicted their drinking outcomes during the post treatment year.[19,64,103] Accurate self-assessments of patient motivation were more difficult to obtain in these restricted settings and seemed to be skewed not simply from social desirability but also from a genuine difficulty that patients had in accurately evaluating their readiness and personal efficacy in these settings.

Using the stages of change and motivational readiness in alcoholism treatment to accurately and definitively place patients in particular stages of change is challenging. One way is to use subscale scores of the URICA or the SOCRATES in combination to create groups based on profiles and assign an individual to a stage based on the similarity of profiles. Another is to use readiness scores calculated from URICA subscale scores to assign stage or level of readiness based on cutoff scores derived from prior research. For example, in Project MATCH, motivational readiness scores of outpatients at entry to the treatment were trichotomized yielding three equal groups: a low readiness group with a mean readiness score of 8.7, a medium group with a mean of 10.5, and a high readiness group with a mean of 12.4.[19] These groups loosely parallel the precontemplation, contemplation, and preparation/participation profiles. Thus, scores could be used to assign stage status with those individuals, with scores below 8 considered precontemplation, scores of 8 to 11 in contemplation, and scores above 12 in preparation. The more elegant way to do this would be to develop cutoff scores based on patients who were in a setting that was the same or very similar in order to develop norms used to create stage assignments. Again, these scores predict best when assessing patients at the beginning of treatment and in outpatient settings.

Although the findings that support the concurrent, construct, and predictive validity of the motivational readiness scores in Project MATCH do not directly support distinct stage classifications, they do indicate that patient's stage-based attitudes at the beginning of treatment have important implications for the process of treatment and drinking outcomes. More importantly for the transtheoretical model is that motivational readiness scores are related in ways that are compatible with the process perspective of the model. Readiness scores

were consistent with patient scores on cognitive and behavioral processes of change and abstinence self-efficacy and were related to problem recognition, working alliance, and behavioral change.[19,64,101]

Drug Abuse and Dependence

Assessment of motivation and readiness with drug abusers has been even more difficult and suffers from problematic application of measures, small samples, and multiple targeted behaviors. Despite these difficulties, a number of studies with substance abuse patients have supported some of the basic psychometric properties of URICA and SOCRATES scales with findings similar to those with alcohol patients. However, predictive validity has been more elusive.[29,35,95,96,104,105] The biggest problems for interpretation with many of these studies has been inadequate samples to represent the range of stages[95,106] and the fact that most have attempted to evaluate multiple substance use behaviors.[29,35,105]

Motivation for change among substance abusers is most often substance-specific. Individuals usually arrive in treatment focused on the primary drug abuse problem, be it heroin, cocaine, marijuana, or some other substance. However, many come to treatment as polydrug abusers who, in addition to the primary drug of abuse, use or abuse other illegal drugs and alcohol, and smoke cigarettes. Drug-free treatment programs usually demand abstinence from all drugs as well as any problematic alcohol use. Methadone maintenance programs often require abstinence from all "unauthorized" drugs. However, individuals who apply to and participate in these programs often are ready to change only one or two of the drug abuse behaviors that they are engaging in and not all unauthorized drugs.[1,95,107] Stage of change can be very different for each drug or drug class. However, measures of motivation and stages of change in the studies cited are often quite generic, using terms that refer to substance use behavior, unauthorized drugs, alcohol and drugs, drug use, or illegal drug use.

More sensitive measures targeting specific drugs of abuse are needed to accurately reflect the stage status of individuals entering substance abuse treatment. However, increasing accuracy is difficult because entry into the program is often contingent on individuals being assigned to or opting for the drug-free program and/or being mandated to treatment by the legal system. Most individuals entering treatment experience a combination of negative and positive pressures.[108] Pressures to enter and be accepted into programs can make accurate self-evaluations problematic. Moreover, in treatment settings, it is often problematic for staff if patients report any lack of motivation, lack of conviction that their drinking or drug use is problematic, or ambivalence about changing drug use. Thus, assessment of readiness and stages of change with illegal substances of abuse presents greater challenges than did assessments of motivational readiness for alcohol problems and stage status for nicotine dependence. Additional research that specifies substance and tracks process variables over time is needed to evaluate how best to use and evaluate the stages of change and readiness with drug abuse problems.

READINESS, STAGES OF CHANGE, AND ADDICTION TREATMENT

Despite the difficulties in measuring stage status with evaluation instruments and the criticisms of the stages, the success of staging and assessing motivational readiness among smokers and drinkers and the intuitively appealing stage-based description of the process of change have made a significant impact in designing and delivering interventions for a range of abused substances and health behaviors.[1,8,12,13,65,109,110] Clinicians have found

the identification of stage subtasks and the idea that individuals are in different stages of change on entering treatment both informative and helpful. Other conceptual contributions have included placing the responsibility to work through the tasks of each of the stages on the substance abuser, helping the treatment provider specify their role in facilitating accomplishment of the tasks, and highlighting the fact that relapse is often part of learning process, which makes movement through the process of change not linear but cyclical and requires recycling through the tasks of the various stages.[1,9]

Clinicians have been using the stages despite not having a simple measure to evaluate stage status. The most recent revision of the ASAM Placement Criteria[111] requires an evaluation of patient readiness to change as an important part of placement decision making. Most evaluators and clinicians are using sensitive and motivational clinical interviews to establish stage status and how to help patients move through the process of change.[13,46,110] Recent efforts to apply the stages of change to substance abuse treatment have used both stages and processes of change, outlined in the Transtheoretical Model of Change, to guide interventions efforts. A new group therapy manual developed for substance abuse treatment has created specific intervention modules and group activities utilizing both the stages and the processes of change.[14] In fact, this approach encourages therapists to teach patients the stages so that they can understand better stage tasks and evaluate themselves as to where they are and whether they are ready to move forward. Obviously, patients need to feel comfortable and safe in self-disclosure if they are expected to acknowledge to the group where they are in the process of change. To apply and assess stage status and motivational readiness to change in clinical settings, a collaborative and non-judgmental approach that will allow the patient to acknowledge ambivalence, lack of commitment, and their personal evaluation of their own stage status is needed.

Motivation for change is best viewed as behavior- and goal-specific, meaning that motivation to change can differ for each substance (alcohol, cocaine, marijuana, nicotine, heroin) and for different goals (reduction of alcohol and other drugs versus abstinence from these substances). Motivation to change can be specified not only by substance but also by the method of ingestion. In one survey of blue-collar workers, we found that many individuals who successfully had quit smoking cigarettes and were in maintenance for smoking cessation were in early stages of change (precontemplation, contemplation, preparation) with respect to quitting their use of smokeless tobacco. Programs that require freedom from all drugs will certainly have to struggle with differing levels of motivation and variable stages status with abusers of multiple substances.

Although the stage of change model supports the notion that interventions and treatment must be individualized and tailored to the stage status of the individual, there are many ways to accomplish this. One approach is to develop common program elements that address the needs of different patients and have the flexibility of moving patients and shifting programming to meet their changing needs as they move forward in the process of change. A number of very concrete suggestions for treatment programming that would address specific stages, and stage tasks have been provided in several recent publications.[1,13,14,46]

READINESS, STAGES OF CHANGE, AND ADDICTION RESEARCH

Although there has been a great deal of research on the stages of change and readiness to change over the past twenty years,

there are still important and basic questions to be answered. The face validity and heuristic value of the stage conceptualization has fueled its popularity. However, research studies with a variety of addictive behaviors support subdividing the process of change into different steps and tasks. They further indicate that groups of individuals subdivided according to stage tasks or with differing levels of readiness vary in predictable ways. However, not all studies have been able to find these differences, and many have not found stage status to predict participation in treatment and behavior change outcomes. Assessment of the stages and translating that assessment into a readiness to change metric offers some benefits but also poses problems for assigning stage status. In addition, assessment problems and challenges vary by substance of abuse and setting.

The problems encountered in assessing stage status in various studies appear to be related to four key issues:

1. the target goal of the behavior change is often poorly specified
2. measures have been poorly constructed and inadequately evaluated in their applications
3. measures are setting-sensitive because they must rely on self-report and the accuracy and honesty of the individual
4. stage status is difficult to capture because it represents a changeable state and not a static trait.

However, some important considerations have been identified that could assist in improving the accuracy of assessing the stages of change, including having a clear behavioral target in terms of substance and change goal; assessing problem recognition; identifying attitudes, evaluations, and intentions toward changing that behavior now and in the future; finding accepted indicators of actual behavior change; and measuring the length of time the change has been sustained.[8] All of these elements can be helpful in creating sensitive stage assessments. However, it is important remember that any measure attempts to operationalize a construct in a satisfactory manner, but no measure ever achieves a complete representation of a construct.

The evaluation of stages is more complicated when the target behavior is complex and multi-faceted or when there are multiple potential goals with regard to the target behavior. Reducing drinking and abstaining from drinking represent two different potential goals for an alcohol abuser. Stage status related to these two distinct goals often are very different and inversely related because drinkers who successfully cut down often become more resistant to abstinence goals. Specificity of behavior and the change goal is critical for accurate assessment.

A stage of change represents the current state of the individual with respect to changing a single behavior or constellation of behaviors. Stage status can persist for a long time or could change in a very short time. An individual who is in precontemplation about quitting smoking today could be in preparation or action tomorrow after learning about the death of his best friend from lung cancer. Assessing this moving target and then using a single assessment at one point in time to predict change outcomes is problematic. Considering this instability, the research findings described above are all the more astounding as stage variables have been very potent predictors in many studies despite the problems of assessment.

Some researchers point to these problems and lack of consistency in findings and conclude that the "stage model does not work" and should be set aside.[43] However, a model is a heuristic to assist in understanding a phenomenon. In this case, the phenomenon is the process of intentional behavior change. This review of the literature indicates that there is substantial

support in demonstrating that the stages have assisted in creating research that has advanced our understanding of the process of change in recovery from an addictive behavior. However, both positive and negative findings should be examined. What is needed is not simply model testing to see if the model is supported, but, more importantly, what each piece of research reveals about motivation, the process of change, and the phenomenon of intentional behavior change.

CONCLUSIONS AND RECOMMENDATIONS

Understanding motivation in terms of the stages of change and patient readiness to engage in and complete the tasks of each stage has enriched our understanding of the process of change and increased our ability to reach and influence substance abusers. An evaluation of the current status of the research indicates that there are flaws in application, problems in measurement, and variable support for some expected predictions derived from the construct of the stages of change and the Transtheoretical Model. However, there is solid evidence that when measured adequately, the stages of change provide a meaningful way to segment the process of change, increase our understanding of motivation as a multifaceted dimension of change, and offer a differentiated and rich view of the process of change to aid our understanding of self-change and treatment-assisted change. In the areas of alcohol abuse and smoking cessation, both stage status and stage-based readiness to change measures are better developed than with other drugs of abuse. Overall, the data and the insights provided by this differentiated, stage-based view of motivation continue to support additional exploration and evaluation of its application in clinical treatment and its use in research that explores the process of intentional behavior change.

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