

INTERNALIZATION: A RELATED PROCESS TO STAGES-OF-CHANGE AMONG
PARTICIPANTS IN A COURT-MANDATED SUBSTANCE ABUSE PROGRAM

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INTERNALIZATION: A RELATED PROCESS TO STAGES-OF-CHANGE AMONG
PARTICIPANTS IN A COURT-MANDATED SUBSTANCE ABUSE PROGRAM

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INTERNALIZATION: A PROCESS RELATED TO STAGES-OF-CHANGE AMONG
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DISSERTATION ABSTRACT

INTERNALIZATION: A PROCESS RELATED TO STAGES-OF-CHANGE AMONG
PARTICIPANTS IN A COURT-MANDATED SUBSTANCE ABUSE PROGRAM

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Substance-use disorders continue to be costly psychological conditions to the individuals who are afflicted, as well as to the society as a whole (NIDA, 1998). Unfortunately, the treatment of substance-use disorders has had limited long-term effectiveness (SAMHSA, 2004), which calls for further investigation of recovery-related variables. Although the relationship between the Transtheoretical Model of Change (Prochaska & DiClemente, 1983) and Self-Determination Theory (Deci & Ryan, 1985) has been studied in adult populations in the context of exercise behavior (Daley & Duda, 2006; Ingledew, Markland, & Medley, 1998; Landry & Solmon, 2004; Mullan and Markland, 1997; Wininger, 2007), it has not been investigated in populations suffering from clinical disorders. This dissertation study examined the relationship between the continuum of change

stages proposed by the Transtheoretical Model and the continuum of internalization proposed by Self-Determination Theory.

Using a sample of 237 adult male and female participants in court-ordered substance-abuse treatment programs, the relationship between stage-position and level of internalization was analyzed. The relationships between perceived coercion and stage position and between perceived coercion and level of internalization were also examined. Participants' Stage-of-Change was measured with the University of Rhode Island Change Assessment (URICA; McConaughy et al., 1983). The participants' level of internalization was measured by the Treatment Entry Questionnaire (TEQ; Wild et al., 2006) and perception of coercion was measured by the Perceived Coercion Questionnaire (Klag, et al., 2006). Observers were also solicited to provide ratings of the participants' stage-position and level of internalization.

In support of the primary hypothesis, the results indicated that a significant ($p < .01$) relationship exists between position on the Stage-of-Change continuum and level of internalization. The results suggest that as individuals move from use of alcohol and/or drugs to abstinence from alcohol and/or drugs, the transition may include the internalization of related values, attitudes, beliefs, and behaviors. However, the related hypotheses, such as the expected relationships between stages, internalization, and perceived coercion, were not supported. Difficulties associated with defining and measuring the construct of internalization are noted.

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CHAPTER I: INTRODUCTION

Statement of the Problem

For decades substance abuse and dependence, a set of physical and mental health problems described by the *Diagnostics and Statistical Manual 4th Edition-Text Revised* (APA, 2000), has had a devastating impact on both the individual and society. According to the 2003 survey results, the Department of Health and Human Services – Substance Abuse and Mental Health Services Administration (SAMHSA, 2004) have estimated that 21.6 million persons aged 12 or older suffer from dependence on either alcohol or illicit drugs or both. Studies conducted by the National Institute on Drug Abuse have calculated the economic cost to society to be over 246 billion dollars annually (NIDA, 1998). Material loss is only part of the picture, as human lives, personal relationships, and social welfare are also among the carnage caused by addiction.

Further findings from the SAMHSA (2004) survey revealed that of the 21.6 million substance-dependent persons, only 3.3 million received some form of treatment in the previous year (SAMHSA, 2004). Alone this is an unfortunate fact, yet further exacerbating the issue is the additional finding that fewer than half of those receiving treatment have successfully abstained from their drug of choice six months beyond the intervention (SAMHSA, 2004). It is ill-fated for more than half of those individuals participating in treatment that the durability of the intervention ended up being so limited.

Certainly, such outcomes beg the broad-based questions of why the results are what they are and what might providers do to improve the effects of treatment interventions.

Many individuals procrastinate or avoid participating in treatment for substance-use disorders (Clancy, 1961). Additional findings from the SAMHSA (2004) survey indicate that an estimated 20.3 million people needed treatment for substance-use disorders, but did not receive it, and for those identified as having treatments needs, 94.9% thought they did *not* require any form of intervention. For the small number of those who did think they needed treatment, 41.2% of them reported they were not ready to stop using and 19.6% reported reasons related to stigma as the primary barrier to their participation in treatment. Such resistance to recovery may be the case because one of the cardinal features of active chemical addiction is the increased level of psychological guardedness (Moore & Murphy, 1961), which often manifests in the increased use of defense mechanisms (e.g., denial, rationalization, justification) by the addicted person. Such psychological fortifications may significantly contribute to a high frequency of thinking errors and distorted perceptions of reality. Thus individuals may have profound difficulty in accurately assessing problems and negative outcomes as they directly and indirectly relate to their use of mood-altering chemicals, much less in seeing the need for change.

Barriers such as these can prove to be formidable regarding the initiation and maintenance of a major alteration to a person's lifestyle. As with most chronic health conditions (be it physical or psychological), an overall modification and adaptation of the individual's lifestyle is essentially what must occur for a sustained recovery. Without question this is a considerably difficult undertaking because it often requires radical

alteration of engrained patterns of behavior and cognitions. Patterns of thinking and behaving have often been supported by extended histories of reward and response contingencies, social attitudes and contexts, and physiological adjustment (e.g., increases in tolerance, chemical dependence). It stands to reason that something must be different between those who overcome such robust physiological and psychological barriers associated with addictive disorders and those who do not. No doubt such change that transforms both cognition and behavior is seldom accomplished in an instant or through a single event. Rather, change of this nature is considered to be a complex process that occurs through progressive transformations that are realized over time. The research of Prochaska and DiClemente (1983), who propose the stage-based progression of human change they conceive to take place regardless of theoretical philosophy, is consistent with the above reasoning.

Rationale for the Study

The Transtheoretical Model (TTM, Prochaska & DiClemente, 1983, 1984) is a familiar model in research on addiction recovery. The model outlines a sequential process of change through which an individual progresses toward sustained lifestyle alteration. As can be expected, some individuals progress completely through all of the “Stages-of-Change” (SOC), some achieve partial success, others never move beyond the initial stage of recognizing change as being needed or beneficial, and still others never fully realize that change is needed. Movement from one stage to the next requires of the individual the use of cognitive and behavioral processes that have been previously identified by Prochaska and DiClemente (1983, 1984). The use of these “Processes-of-Change” (POC) and SOC movement imply that some natural phenomenon is at work that appears to cut

across theoretical perspectives. As a result, the Transtheoretical and Stage-of- Change models and the Processes-of-Change have generated a vast amount of related research.

Internalization, a variable proposed by Deci and Ryan (1985; Ryan & Deci, 2002), may have potential toward extending the utility of the TTM, as well as aiding in the understanding of the differences between those who recover from substance-use disorders and those who do not. Deci and Ryan and others have studied internalization in the context of intrinsic and extrinsic motivation (which is implied by TTM stage movement) and suggest that an individual is able to integrate psychological material (e.g., attitudes, ideas, values and subsequent behaviors) they previously found disinteresting, uncomfortable, or even aversive. Deci and Ryan recognize graduated levels of internalization as the mechanism at work for moving novel, different, or initially uninteresting psychological material into the individual's integrated sense of self, which by definition is a changed individual.

People from all ethnicities, cultures, classes, religions, walks and stations of life are represented among those afflicted by addiction, thereby demanding an approach to treatment that considers a wide range of variables. The individual contribution made by clients is shaped by their biological inheritance and composition, psychological development and experience, as well as their social and cultural origins. These broad-based and influential variables combine to form the parameters of each unique individual's perceptions of self, perceived needs or benefits of intervention, available options for facilitating change, and position in the process of recovery.

Human differences combine with the intricacies of a substance-use disorder and thereby necessitate a comprehensive approach to treatment; thus, clinicians need an

understanding of those complex influences that can hinder and/or aid their clients' efforts toward recovery. In the spirit of avoiding a "one-size-fits-all" or a "cookie-cutter" approach, which is seemingly common clinical wisdom regarding the ethical practice of psychological treatments, the current study proposes that an extension of the present understanding is required to improve the efficacy of substance-abuse intervention and sustainability of client change. Considering the severe damage substance-use disorders cause, the limited number of persons treated, and the limited success of those treatments, it is paramount that intervention strategies and techniques maximize their effectiveness at every opportunity. In general terms, improved treatment quality can be accomplished by advancing our knowledge of the relationships existing within or among the variables related to recovery from substance-use disorders that endure from the outset of intervention to aftercare follow up. Of special import is the need for an improved comprehension of underlying mechanisms that contribute to change during substance abuse treatment, as they influence the progression of psychological and behavioral adaptation in the context of lifestyle change. Improvement in treatment quality can be accomplished by knowing more about the roles of internal mechanisms that can facilitate change, and how such mechanisms may affect the movement toward recovery. More specifically, the current investigation is intended to explore how internalization is related to an individual's placement or position on the TTM continuum of lifestyle change.

CHAPTER II: LITERATURE REVIEW

The Stages of Change

Regarding models of human change and psychological recovery, a cacophony of theoretical perspectives exist. For example, the purely behavioral perspective views change as being the result of reconditioning or alterations to schedules of reinforcement or environmental contingencies (Bouton, 2007; Skinner, 1958, 1988). The cognitive psychology model considers change in the context of restructuring one's core beliefs through ongoing thought analyses and intervention (Beck, 1995). The psychoanalytic model of change involves reaching resolutions within and between one's subconscious structures through useful transference and emotional catharsis (Luborsky, 2000). The social-learning model considers change in the context of expectancies, reinforcement, self-evaluation, and self-efficacy in relation to one's social environment (Bandura, 1977; Rotter, 1975). All of the aforementioned philosophies have merit, yet no one perspective is able to account fully for the complex process of human psychological and behavioral change.

According to Prochaska (2000), the Transtheoretical Model (Prochaska & DiClemente, 1983, 1992) has identified change processes and stages that cut across the dominant theoretical models such as psychoanalytic, behaviorism, cognitive theory, and social-learning. Interestingly, an extensive body of empirical support has established that

more people recover from mental/emotional disorders as a result of “extratherapeutic factors” than from identified variables (e.g., techniques, common factors, expectancy) in formal interventions (Lambert & Barley, 2002). This suggests that recovery is a natural human phenomenon that may occur on a highly frequent basis. Such is the perspective of the Transtheoretical Model (TTM) of change, as presented by Prochaska and DiClemente (1983, 1992; DiClemente & Prochaska, 1998), which has had a significant impact on the treatment of substance-use disorders, especially in terms of understanding the progression toward addiction recovery.

The early development of the TTM originates from tracking subjects, while following their natural pace, who were addressing the specific problem behavior of smoking, which is the product of a nicotine addiction. This research led the authors to a broader exploration of intentional behavior change, which resulted in the identification of steps or stages within the progression of change that are consistent across theoretical philosophies (DiClemente, 2003). Since the inception of the TTM, extensive research has been conducted investigating its usefulness with a wide range of human conditions and problem behaviors, such as weight problems and associated ailments (Buchanan & Coulson, 2007; Howard, 2007; Jackson, Asimakopoulou, & Scammell, 2007), exercise behaviors (Berry, Naylor, & Wharf-Higgins, 2005; Cheung, Wyman, Gross, Peters, Findorff, & Stock, 2007; Garner & Page, 2005; Wadsworth & Hallam, 2007), teen smoking (Herzog, 2007; Hoepfner, Velicer, Redding, Rossi, Pallonen, & Meier, 2006), risk for HIV (Gazabon, Morokoff, Harlow, Ward, & Quina, 2007; Harlow, et al. 1999), domestic violence (Levesque, Gelles, & Velicer, 2000; Shurman & Rodriguez, 2006), stuttering (Floyd, Zebrowski, & Flamme, 2007), in addition to a special focus in the area

of substance-related disorders (Carbonari, DiClemente, & Sewell, 1999; Carney & Kivlahan, 1995; Conners, Donovan, & DiClemente, 2001; Prochaska & DiClemente, 1992; Zhang, Harmon, Werkner, & McCormick, 2006). As with many models, this one has evolved over time. Originally, the model contained four stages: 1) *precontemplation*, 2) *contemplation*, 3) *action*, and 4) *maintenance*. Currently, the model has five stages: 1) *precontemplation*, 2) *contemplation*, 3) *preparation*, 4) *action*, and 5) *maintenance* (Prochaska, DiClemente, & Norcross, 1992). Reinterpretation of the original data, followed by a considerable volume of research, supported the addition of the stage of *preparation*, thereby extending the model's comprehensiveness.

As noted previously, the model purports to follow a format describing the natural process of human change (DiClemente, 2006) and asserts there are predictable and progressive levels of "readiness" to change. From the least to the most in terms of readiness, the basic descriptions of the stages are as follows (Prochaska & DiClemente, 1983, 1992): *Precontemplation* is characterized by the lack of intent to change. The problem is not recognized as troublesome and/or it is seen as having more benefits than drawbacks. *Contemplation* is characterized by the individual thinking about the possibility of change, seeking information and evaluating, but not yet being prepared to change. *Preparation* is characterized by a demonstrated readiness to change attitude and behavior, which may manifest in new or different behaviors and verbalizations or increases in self-regulation. *Action* is characterized by the modification of the problem behavior (e.g., protracted periods of abstinence, increased exercise behaviors, cessation of binge eating, etc.) and the development of new skill sets to prevent returning to the problem behavior. Lastly, *maintenance* is characterized by the new behavior becoming

the status quo, with little effort or thought given to sustaining the changes that he or she has achieved. It is important to understand that progression through the stages is not always linear, rather, it may follow a cyclical pattern (Connors et al. 2001; Prochaska, 2000; Prochaska et al., 1992).

Clearly one of the advantages of the TTM is that the stages of the model also identify corresponding tasks and associated goals that must be achieved before moving to the next stage (see Table 1; adapted from DiClemente, 2003, p. 27). The tasks and goals associated with each stage are adaptive and are differentially modified for the individual depending on which stage he or she is transitioning to and from. For example, one of the primary tasks associated with movement from Precontemplation stage to Contemplation stage is “an increase in awareness of the need to change” with the goal of “serious consideration of change for the problem behavior” (DiClemente, 2003). Alternatively, one of the primary tasks associated with movement from the Action stage to Maintenance stage is “implementing strategies for change” with the goal of “a new pattern of behavior is established for 3 to 6 months” (DiClemente, 2003).

Tasks and goals are accomplished through ten processes-of-change (POC), which have been divided into the two categories of behavioral and cognitive/experiential (see Table 2; DiClemente, 2003). Similar to the stage-related tasks and goals, the use of specific POC also varies for the individual as he or she moves through the stages.

Table 1. **Stages of Change (SOC)**

Precontemplation: The stage in which there is little or no consideration of change of the current pattern of behavior in the foreseeable future.
Task – increase in awareness of the need to change; increase in concern about the current behavior pattern; envisioning the possibility of change.
Goal – Serious consideration of change for the problem behavior.

Contemplation: The stage wherein the individual examines the current pattern of behavior and the potential for change in a risk-reward analysis.
Task – Analysis of pros and cons of the current behavior pattern and of the costs and benefits of change. Decision making.
Goal – A considered evaluation that leads to a decision to change.

Preparation: The stage in which the individual makes a commitment to take action to change the behavior pattern and develops a plan and strategy for change.
Task – Increasing commitment and creating a change plan.
Goal – An action plan to be implemented in the near term.

Action: The stage in which the individual implements the plan and takes steps to change the current behavior pattern and to begin creating a new behavior pattern.
Task – Implementing strategies for change; revising plan as needed; sustaining commitment in the face of difficulties.
Goal – Successful action for changing current pattern. A new pattern of behavior established for a significant period of time (3-6 months).

Maintenance: The stage wherein the new behavior pattern is sustained for an extended period of time and is consolidated into the lifestyle of the individual.
Task – Sustaining change over time and across a wide range of situations. Integrating the behavior into the person’s life. Avoiding slips and relapse back to the old pattern of behavior.
Goal – Long-term sustained change of the old pattern and establishment of a new pattern of behavior.

Note. The table above is from *Addiction and Change: How Addictions Develop and Addicted People Recover* (p. 27), by C. C. DiClemente, 2003, New York: Guilford. Copyright 2003 by Guildford Press. Adapted with Permission.

Awareness of these processes allows the clinician to aid in the facilitation of stage transition and subsequent change by applying POC-oriented interventions (Connors et al., 2001). The completion of tasks and accomplishment of the goals are confirmation of stage movement. However, although task completion and goal attainment indicate the POC are being used, it is unclear as to what underlying mechanism(s) may be facilitating the processes.

Table 2.**Processes of Change (POC)**

Cognitive/Experiential Processes

1. Consciousness Raising – Becoming more aware of risks of current behavior and benefits of new.
2. Emotional Arousal – Experiencing emotional reactions about the current behavior and the possibility of change.
3. Self-reevaluation – Seeing current and new behavior in a new light, accessing how both relate to core values and view of self.
4. Environmental reevaluation – seeing how current and new behaviors affect those around me, and assessing how those around me affect my behavior.
5. Social Liberation – Noticing and increasing social alternatives that help initiate change.

Behavioral Processes

1. Self-Liberation – Making choices, taking responsibility, and making commitments.
 2. Stimulus Generalization and Control – Creating cues that support new behavior, avoiding cues that support old behavior, and changing my response to cues so they no longer support old behavior.
 3. Conditioning and Counter-conditioning – Making new connections between cues and a behavior; substituting new behaviors and activities in response to old cues.
 4. Reinforcement Management – Identifying and manipulating positive and negative reinforcers. Creating rewards.
 5. Helping Relationships – Seeking and receiving support from others.
-

Note. The table above is from *Addiction and Change: How Addictions Develop and Addicted People Recover* (p. 34), by C. C. DiClemente, 2003, New York: Guilford. Copyright 2003 by Guilford Press. Adapted with Permission.

In an effort to extend the use of the model, researchers have tried to isolate variables they consider to promote or hinder recovery within the context of the SOC movement. Among these are attitude towards treatment (Silverstein, 1996), the working alliance (Rochlen, Rude, & Barón, 2005) conscientiousness (Bogg, 2007), self-efficacy (Demmel, Beck, Richter, & Reker, 2004), and social support (Wagner, Burg, & Sirois, 2004). Other variables benefiting from research are motivation (Abblett, 2001; Blanchard, Morgenstern, Morgan, Labouvie, & Bux, 2003; Carney & Kivlahan, 1995; DiClemente, Bellino, & Neavens, 1999; Gavigan, 2001; Miller & Tonigan, 1996) and in-depth examinations of processes of change (POC), as described by the Transtheoretical Model (Callaghan & Herzog, 2006; Lowthe, Mutrie, & Marian, 2007; Marcus, Rossi, & Shelby, 1992; Perz, DiClemente, & Carbonari, 1996; Prochaska & Velicer, 1997; Segan, Borland, & Greenwood, 2004; Wadsworth & Hallam, 2007).

According to DiClemente (2003) the “stages depict motivational and dynamic fluctuations of the process of change over time” (p. 25). Motivation has been considered in the context of the SOC perspective and is widely recognized as a driving force influencing change. Unfortunately, it has not enjoyed a unified consensus in terms of a concrete operational definition. Abblett’s (2001) study considered motivation to be evidenced by the utilization of psychotherapeutic interventions, which is an explanation based on behavior. Likewise, Gavigan (2001) defined motivation by the participant’s frequency of attendance at treatment sessions. DiClemente et al. (1999) considered motivation to encompass the individual’s attitudes, intentions, confidence, commitment, and decision-making ability. Blanchard et al. (2003) and others (Carney & Kivlahan, 1995; Miller & Tonigan, 1996) construe motivation to be a subtype that is based on where the individual is on the TTM continuum of change (e.g., precontemplation is synonymous with no motivation; maintenance is synonymous with high motivation). Similarly, Polcin and Beattie (2007) believe that the presence or absence of motivation can be inferred from “readiness” scores that categorized participants into one of four SOC. Therefore, based on the above mentioned viewpoint, a person’s progression through the stages of change *implies* the presence of motivation based on stage-specific accomplishment of tasks and goals rather than defining its composition or establishing it as the key mechanism engendering change. In short, the above noted research on motivation has been divergent in its definition of the construct and therefore unable to clearly establish motivation as the mechanism underlying the SOC transitions required for sustained change.

The change processes (POC) were established during the original studies that produced the TTM. Prochaska (1979) identified 10 basic cognitive/experiential and behavioral processes (Table 2) that were later proposed to account for how people would change (Prochaska & DiClemente, 1983; Prochaska et al., 1988). The POC have been described by DiClemente as “the internal and external experiences and activities that enable a person to move from one stage to the next. Engaging in these processes provides the means by which individuals accomplish the stage-related tasks. Thus the processes create and sustain movement through the stages” (2003, p. 24). A basic review of stage-related goals and associated tasks (Table 1) reveals that each stage requires an explicit degree of cognitive and behavioral processes that are dependent on the stage-specific tasks and objectives. In brief, it is asserted by Prochaska (1979) and colleagues that more cognitive and less behavioral processes are required in the earlier stages (Precontemplation, Contemplation) and visa versa for the latter stages (Action & Maintenance). In support of the original TTM and POC research Perz et al. (1996) and Segan et al. (2004) found that participants in earlier stages (Precontemplation, Contemplation) demonstrated patterns of high cognitive/experiential process use and low behavioral process use and the opposite for participants in later stages (Action, Maintenance).

Conversely, Wadsworth and Hallam’s (2007) research found that POC use was subject to influence by the intensity and frequency of the behavior in question (e.g., exercise) and that the use of cognitive and behavioral POC reflected a linear pattern across all SOC. Lowther and colleagues (2007) had similar findings, as their results suggested a positive relationship exists between the cognitive/experiential POC and the

latter stages of the TTM continuum. Moreover, in their study of POC and the movement from Contemplation to Preparation, Callaghan and Herzog (2006) found no differences in the forms of POC use (cognitive or behavioral) between the stages of Contemplation and Preparation, which tends to “undermine the TTM’s central tenet that stage-matched POC serve as the primary mechanisms of stage progression” (Callaghan & Herzog, 2006, p. 1331). In sum, the POC literature is mixed in terms of what processes are engaged at which stages, but is not mixed in terms of whether or not the processes influence stage progression and sustained change.

The depiction of motivation is well illustrated by the TTM as is the role the POC play in the movement from early stages to latter stages. However, motivation is a complex and multidimensional phenomenon and the TTM is unable to clearly account for it in terms of how it influences the accomplishment of stage related tasks and goal attainment. Simply put, the model assumes motivation is present if a person moves from one stage to the next. Likewise, prior research has demonstrated and repeatedly verified the use of the POC. Thought processes, experiences, and behaviors assist the individual in creating and sustaining lasting change. However, it is unclear as to when each (cognitive or behavioral) has its greatest affects. Rather, it seems their specific influence varies from stage to stage, study to study, and possibly person to person, which suggests that they may be differentially matched to persons and stages.

The TTM of change offers several advantages for understanding the treatment needs and the progression of change in persons suffering from substance use disorders. From the outset, it is a model that recognizes that change is an arduous undertaking, offers both comprehensiveness and depth to the understanding of the natural change

processes, and has been forged from the study of change patterns in a population of nicotine-addicted persons, which is a tenacious substance-use disorder. The TTM has excellent clinical utility for the conceptualization of client recovery. Moreover, the model offers a practical template for assessing where a person may be starting on their road to altering their substance-use behavior, as well as a tool for tracking their progress and understanding what has to be accomplished to continue toward sustained behavior change. Finally, the use of the TTM allows practitioners to plan and implement appropriate interventions that are targeted at the client's POC at the most efficacious points along the change continuum thereby maximizing positive outcomes (e.g., accomplishment of stage-specific tasks) while minimizing negative outcomes and delays (e.g., cycling backward to a previous stage) in the natural progression of change.

With regard to substance-use disorders, the TTM has been recognized as “a highly influential heuristic among substance abuse researchers” (Carney & Kivlahan, 1995, p. 136) and has been investigated extensively in the context of a wide range of addictive problems, clinical disorders, and varied populations. The model has also received attention from research focused on perceived core mechanisms that create and facilitate lasting change. However, the current body of literature bears out a significant limitation, which is that the model is unable to account adequately for what underlying mechanism is at work in helping move individuals through various stages. Therefore, further research is warranted regarding the potential mechanisms that help drive human change, or which at a minimum are correlated with movement through the Stages-of-Change.

Internalization

As a most simplistic definition, internalization has been called a metaphor by Scott (1971), as “it implies that something moves from the outside of the mind or personality to a place inside it” (p. 3). Self-Determination Theory proposes such a process by which externally controlled behaviors become “internalized” and thus are integrated into the self (Deci & Ryan, 1985; Ryan & Deci, 2002). Within the field of psychology, a thorough understanding of internalization has been hindered by a wide range of definitions and explanations, none of which adequately describes or explains the complex process by which the extrinsic becomes intrinsic or the external becomes internal. It is beyond the scope of this section to tease apart the multitude of proposed explanations; rather, the sections that follow are intended to provide a general overview of some of the more prominent and fundamental conceptions of internalization.

Psychoanalytic Perspective of Internalization

The earliest theoretical proposal of internalization came from the work of Freud (1986). He hypothesized that internalization occurs early in the child’s development during a period characterized by magical thinking and fantasy that precedes the development of logical thinking. He believed that internalization continues throughout the development and maturation of the ego, though in different forms and with different objects. He stated in lecture 31 “the external restraint is internalized and the super-ego takes the place of the parental agency and observes, directs, and threatens the ego in exactly the same way as earlier the parents did with the child” (p. 489). His basic ideas were expanded upon by subsequent researchers and theorists (Behrends & Blatt, 1985;

Klien, 1950; Meissner, 1979; Orlinsky & Geller, 1993; Schafer, 1968) who mainly considered internalization from an object relations perspective. For example, the child would “internalize” the object (e.g., the mother or father or other perceived omnipotent persons) in part or in whole, thereby creating within himself an internal representation that would be used to influence his behavior in various and multiple contexts, sometimes consciously, sometimes subconsciously. Freud (1986) went further to describe the processes of introjection and identification as mechanisms that facilitated such changes within the individual. *Introjection* has been defined as a structural component of the psychic system (Meissner, 1981), whereby the person complies with the demands of the internal representation (e.g., a parent) in order to gain imagined or fantasized approval, which in turn facilitates a sense of security (Deci, Eghrari, Patrick, & Leone, 1994). *Identification* has been defined as a pseudoidentity, an imitation of an object, or a personality alteration intended to align with an object (Lazowick, 1955). The object may be a person, a group, or an idea (Glaser, 1958). Unfortunately as with internalization, the terms introjection and identification have been encumbered with a wide range of meanings and descriptions (Hill, 1960).

Developmental Perspective of Internalization

From the developmental perspective, Vygotsky (1978) considered conflict and problem solving as the catalysts for development and change. Within the context of change, internalization was “the internal reconstruction of an external operation” (1978, p. 57) and was asserted by Vygotsky to be a developmental law (Rizzo & Corsaro, 1988). According to Vygotsky (1978), functions in development occur two times, the first at the social level (between people) and later at the individual level (within the person). For

example, Vygotsky's perspective considered a child's self-directed speech to be grounded in his or her exposure to and interaction with social speech, and instead of disappearing it would "go underground" and provide a foundation for what he termed "inner speech" (Rizzo & Corsaro, 1988; Wertsch, 1979; Wertsch & Stone, 1985). He acknowledged these functions as *interpsychological* (between people) and *intrapsychological* (within the person) and viewed internalization to be a gradual process; however, some functions would remain external or interpsychological, never becoming internalized or intrapsychological (Rizzo & Corsaro, 1988).

Piaget (1954) proposed the cognitive processes of *accommodation* and *assimilation*, within the context of development, as the means through which the external may become internal. Accommodation is an adaptive process by which existing knowledge structures are altered when the individual is exposed to new information in his or her environment (Broderick & Blewitt, 2006). Assimilation is also an adaptive process through which the individual interprets new information or experience as fitting in with what he or she already knows, which can sometimes lead to distortions in the new information or experience (Broderick & Blewitt, 2006). Using the dilemma of fitting a square peg into a round hole as a simplistic example, accommodation may be thought of as changing the round hole (the existing knowledge structure) to fit the square peg (the novel or competing information or experience). Conversely, assimilation may be thought of as changing the square peg (the novel or competing information or experience) to fit the round hole (the existing knowledge structure). Based on Piaget's (1954) account of the processes of accommodation and assimilation, internalization may be viewed as the cognitive adaptation of new and/or different information and/or experience.

Transmission and *transformation* (Lawrence & Valsiner, 1993) are additional constructs which grow out of developmental psychology and which are linked to internalization. According to Holland and Valsiner (1988), “internalization refers to the processes by which material that is held out for the individual by social others is imported into the individual’s intra-psychological domain of thinking and affective processes, where social others may be persons, social institutions, or culturally constructed mediating devices” (p. 151, as cited by Lawrence & Valsiner, 1993). Transmission is considered to be a unidirectional process whereby “the knower (parent, teacher, expert) provides the not-yet-knower (child, student, novice) samples of completed knowledge” and the recipients are expected to passively accept the “pre-packaged messages” as given (Lawrence & Valsiner, 1993, p. 152). On the other hand, transformation is considered to be a bi-directional process (Valsiner, 1988, 1989), whereby internalization and development occurs as the external undergoes a transformation by the internal conceptual system that is importing it. The newly transformed information is then used in coordinating and recombining preexisting knowledge (Lawrence & Valsiner, 1993). It is an interactive process between the individual and the environment during which the newly internalized knowledge structure is ejected back into the environment (e.g., behaviorally, attitudinally) reinitiating the reciprocal process (Semin, 1989).

Social-Psychological Perspective of Internalization

In addition to psychoanalytic and developmental perspectives, social psychology has weighed in with substantial contributions toward the understanding of internalization. For example, Stolte’s (1978) proposal consists of two pathways through which the external may become internal. He identified them as *internalization* and *interiorization*.

Underlying each he presented a conceptual framework that distinguishes three primary aspects: a) The social-contextual setting, which he defined as “a surrounding context of structural conditions which might be denoted as moral values, moral rules, or social norms” (p. 298); b) the relationship between the individual and key components of the setting, which he defined as “the relationship between the individual and the socialization agent(s)” (p. 299); and c) the way in which an individual tends to respond in the absence of externally derived consequences (e.g., reward or punishment) and exhibits socially conformative behavioral control. He defined this third aspect as a process of “complex internal evaluation and action, which is sustained in the absence of external sanctions (positive or negative)” (p. 301).

For Stolte, *internalization* occurs in, a) a setting that is extrinsically controlled with a capacity for and a tendency to exercise coercion; b) a relationship that is unilateral wherein the “internalizer” is a passive object and subject to contingencies imposed by the socialization agent (e.g., employer, legal system, street gang) that forms the setting; and c) a resulting response style that is concrete, rigid, and inflexible with regard to the internalized norm (e.g., value, attitude, behavior).

Stolte (1978) also suggested that the external may become internal by a second pathway he identified as *interiorization*, which is seemingly the polar opposite of internalization. For Stolte, *interiorization* occurs in, a) a setting wherein the “interiorizer” is likely to already share specific values, attitudes, and behaviors and considers the common benefit of all the participants; b) a relationship that is bilateral and reciprocal despite the presence of social power or an established hierarchy (e.g., student – faculty;

employee – employer); and c) a resulting response style that tends to be humanistically accommodating, inclusive, and flexible regarding the interiorized norm.

Table 3. **Stolte’s Conceptual Framework**

<u>Psycho-Social Aspect</u>	<u>Internalization</u>	<u>Interiorization</u>
The Setting	Coercive	Voluntaristic
The Relationship	Unilateral/Passive-Object	Bilateral/Active-Agent
The Response Style	Conformative - Rigid	Humanistic - Flexible

Clearly there are distinct differences between Stolte’s (1978) conceptual pathways through which the external may become internal (see Table 3). In his final conclusions he contended that both pathways are required for the development and socialization of the individual, that they each may be in play individually or simultaneously, and that they endure throughout the lifespan (Stolte, 1978). His contribution to the understanding of a global concept of internalization was significant in the sense that his work illuminated the conceptual complexity of the construct in addition to the notion that internalization may occur in more than one form, encompasses multiple aspects or conditions, and can lead to diverse attitudinal and behavioral outcomes.

Similar to Stolte’s (1978) proposals, Deci and Ryan (1985) also have a model which describes how the external may become internal. However, these theorists view internalization as a process of one pathway, as opposed to two, that may undergo alterations as it can evolve from a more extrinsically influenced form to a more intrinsically influenced form. Like Stolte’s model, Self-Determination Theory (SDT; Deci & Ryan, 1985) is broadly anchored in the field of social psychology.

Analogous to the Transtheoretical Model and the Stages-of-Change described earlier in this chapter, SDT has been the focus of research regarding a wide range of clinical conditions and human behaviors. Among these are mental health (Bierma, 2005), suicidal ideation (Britton, Williams, & Conner, 2007), domestic violence (Neighbors, Walker, Roffman, Mblinyi, & Edleson, 2008), road-rage (Knee, Neighbors, & Vietor, 2001), physical health and exercise, (Miquelon & Vallerand, 2008; Williams, Minicucci, Kouides, Levesque, Chirkov, Ryan, Deci, 2002; Wilson, Mack, & Grattan, 2008), medical conditions (Sher, Bellg, Braun, Domas, Rosenson, & Canar, 2002; Smith, Mitchell, & Bowler, 2007; Williams et al., 2002; Wood, 2008), education (Guay, Ratelle, & Chanal, 2008; Jang, 2008), and substance abuse (Foote, Deluca, Magura, Warner, Grand, Rosenblum, & Stahl, 1999; Wild, Cunningham, & Ryan, 2006).

SDT addresses internalization within the structure of a sub-theory the authors identified as Organismic Integration Theory (OIT). Deci and Ryan (1985) base their proposals on Freud's (1923) notion of *synthetic function* and Piaget's (1952) concept of schematic reform through the processes of assimilation and accommodation.

Indeed, we suggest that it is the synthesis of elements into a unified superordinate structure that provides the sense of identity and coherence we refer to as the *self* and that is the basis for self-determined functioning. We use the term *integration* to refer to those functions that Piagetians labeled organization and psychodynamic theorists called synthetic, and we use the term *integrative process* to refer to that ongoing process of differentiating and integrating one's experience into a unified sense of self. (Deci & Ryan, 1985, p. 120)

For Deci and Ryan (1985) OIT provides a foundation and developmental context within which internalization plays a significant role, as it facilitates the integrative process described above. According to these theorists, “a basic premise of organismic integration theory is that there is developmental movement from nonregulation of behaviors that do not interest one, toward self-determined regulation of the subset of those behaviors that are useful for one’s effective adaptation” (Deci & Ryan, 1985, p. 133).

Internalization, as they see it, “refers to the process through which an individual acquires an attitude, belief, or behavioral regulation and progressively transforms it into a personal value, goal, or organization. It is the developmental process by which a person integrates the demands and values of the socializing environment” (Deci & Ryan, 1985, p. 130). One of the primary assumptions made by Self-Determination Theory and Organismic Integration Theory is that integration, which includes differentiation, assimilation, and accommodation (Piaget, 1952), is a reorganization process that tends to occur naturally, “unless the individual is overpowered by the environment” (Deci & Ryan, 1985, p. 130). Moreover, even when the environment is “overpowering” in terms of harsh or strong contingencies or in the absence of social power, integration into the psychological system of an attitude, belief, or behavioral regulation may still be achieved, although to a limited degree. In other words, the unification of novel, alternate, or uninteresting material (e.g., attitude, behavioral regulation, etc.) with the individual’s psychological system may be accomplished despite environmental impediments to autonomy and self-determination. According to SDT (Deci & Ryan, 1985), what facilitates the integration process, even in the face of external control, is the graduated

progression of internalization. As Deci and Ryan view it, integration can be the byproduct of internalization.

Deci and Ryan (1985) view internalization on a continuum that ranges from its most extrinsically derived forms to more intrinsically derived forms. They suggest that individuals may engage in activity (psychological or physical) with one of four distinct regulatory styles. Each of these styles reflects the degree to which the activity, value, or attitude is internalized and the individual is able to meet his or her needs of autonomy, competence, and relatedness. Deci and Ryan further assert these psychological needs as the primary facilitators of human change that directly influence one's capacity to internalize. The specific styles beginning with the lowest degree of internalization are identified as external regulation, introjected regulation, identified regulation, and integrated regulation. The latter (integrated regulation) represents the most intrinsic form of regulation and the highest degree of internalization of what was once a behavior partially or completely under external control. *External regulation* is considered to be attitudes and behaviors that are controlled by external sources through operant conditioning and contingencies, such as material rewards to constraints or punishment. *Introjected regulation* is considered to be attitudes or behaviors that are reinforced through internal processes such as guilt, anxiety, or emotions related to self-esteem that were originally developed from external sources (e.g., parents and/or omnipotent others) but now influence the individual through an internalized representation. *Identified regulation* is considered to be attitudes or behaviors the person chooses because they are congruent with his or her values and goals and are beginning to reflect the individual's sense of self. *Integrated regulation* is considered to be attitudes and behaviors that are

chosen not just because of their congruence with other defining core values but also because they are consistent with other self-schemas and self-identity (Deci & Ryan, 1985; Pelletier et al., 1997).

An illustration can be found in four persons having an addiction to alcohol who attend Alcoholics Anonymous (AA) meetings. The first individual attends meetings at the request of his employer and against his own preference to “stop on my own.” His behavior of attending meetings is *externally regulated* because it has been made clear he will be unemployed if he fails to comply with the request, and he complies despite his own preferences. The second individual reports that she attends the AA meetings because she knows she should be doing something about her problem with alcohol. She reports feeling ashamed when she thinks of how she has embarrassed herself and her husband. Her behavior and attitude toward meeting attendance is the result of *introjected regulation* because she achieves some measure of relief from shame and an improved sense of self by doing so. The third individual reports he attends AA meetings because he has received many benefits from doing so. He describes how he has been able to remain alcohol-free and that the quality of his interpersonal relationships has improved as a result of applying some of the AA slogans and folk wisdom (e.g., Live & Let Live, One-Day-At-A-Time). He also compares his meeting attendance to his brother with diabetes who takes a daily insulin shot. He states “we both want to be healthy.” His behavior and attitudes regarding meeting attendance is reflective of *identified regulation*, as he chooses the behavior and attitudes because they produce outcomes he deems valuable and compatible with his goals. The fourth individual reports she attends AA meetings not only because she receives a number of benefits (e.g., extended abstinence,

improved relationships), but also because many of the AA principles (e.g., self-honesty, service to others, humility, fellowship, carrying the message of recovery) have become a part of who she is. Her behavior and attitudes regarding AA meetings are indicative of *integrated regulation* because those behaviors, attitudes, and congruent values now reach far beyond the original or fundamental benefits, such as establishing and maintaining long-term abstinence from alcohol; rather those values, attitudes, and subsequent behaviors have become incorporated into who she is or her “sense of self” (Deci & Ryan, 1985, p. 120).

The examples above distinguished the four forms of internalization using four different individuals as examples of each step along the continuum of integration. Alternatively, the concepts could be demonstrated just as clearly by using one individual who has traversed the continuum using all four of the regulatory styles. The person could begin with no integration of AA-related behavior and attitudes and, through the internalization process proposed by Deci and Ryan (1985), end up with a complete integration of AA-related behavior and attitudes. Such is the proposition of Organismic Integration Theory and Self-Determination Theory. Simply restated, what distinguishes the four forms of internalization is the degree to which a given value, behavior, or attitude becomes unified with the self (Deci & Ryan, 1985).

Summary of Internalization

In sum, the general body of psychological literature is rich with research and opinion on internalization. What it is and how it occurs has been addressed by various schools of thought, including psychoanalytic, developmental, and social psychology. Among the explanations and distinctions are the concepts of introjection and

identification (Freud, 1986; Meissner, 1981), intra and inter psychological (Rizzo & Corsaro, 1988; Vygotsky, 1978), assimilation and accommodation (Piaget, 1952), transmission and transformation (Lawrence & Valisner, 1993), a social-psychological framework of conditions (setting-relationship-response), which also presented an alternative form of internalization identified as interiorization (Stolte, 1978). And finally, a progression view that proposes internalization as reaching different degrees of integration into the individual's personality or self (Deci & Ryan, 1985). All of the above may be recognized as notable explanations of internalization. Yet the majority of them fall short in providing a complete or thorough understanding, thereby leaving some important questions unanswered. For instance, do the suggested means by which internalization occurs (e.g., introjection, operant conditioning, schematic reform, social learning) from the aforementioned sub-fields fields of psychology (psychoanalytic, developmental, social) work separately or is it possible many of these mechanisms work in concert with the final outcome being internalization? And, what determines the degree to which internalization may occur for a given behavior, attitude, or belief?

Although Deci and Ryan's (SDT, 1985) model does not account for all descriptions or conceptions of internalization, it does consider several fundamental tenets from the major areas of psychology noted above. It does so within the context of motivational theory, while incorporating a number of concepts and notions about internalization from many of the preceding theories and fields of psychological study. For example, SDT considers the social aspects of the process (e.g., social settings and contexts, self-efficacy in terms of competence). Interestingly, all of the aforementioned theoretical models, conceptualizations, and hypothesized processes, regardless of the

psychological field of origin (psychoanalytic, developmental, social psychological), include the internalizer's interaction with fellow human beings. Moreover, these social others participate as either unidirectional or bidirectional agents and have roles in the initiation, facilitation, or completion in the process of internalization. From this standpoint, the social thread is seemingly a crucial strand where the binding together of a more unified understanding of internalization is concerned. SDT holds interpersonal interactivity as being a primary and significant influence on the organism-environment interaction, with power to enhance or impede an individual's development, as well as their attainment of the fundamental psychological needs of competence, autonomy, and relatedness (Deci & Ryan, 1985, 2000; Ryan, 1995; Ryan & Deci, 2002).

Moreover, SDT considers a number of the earlier conceptions of underlying processes that may contribute to or facilitate the process of internalization. Examples include introjection and identification (Freud, 1923; Meissner, 1981), whereby SDT takes into consideration that persons develop an internal representation of things (e.g., person, group, idea) from their environment that later serves as a benchmark or a guide for their behavior (e.g., introjected regulation, identified regulation). In addition, SDT recognizes the social learning and behavioral principles involved, such as the influence of contingencies that may be observed and/or experienced (Aronfreed, 1969) in the earliest form of internalization (external regulation). The theory also acknowledges cognitive reorganization such as bi-directional transformation (Lawrence & Valsiner, 1993; Valsiner, 1988, 1989), assimilation, and accommodation (Piaget, 1952, 1954) as ongoing mental activities inherent to the internalization process.

SDT also shares what appears to be a similar rationale with Stolte's proposals regarding the distinctions between *internalization* and *interiorization*. Deci and Ryan (1985) do so with their distinctions between the earlier forms of regulation (e.g., *external regulation*, *introjected regulation*) that are subject to extrinsically derived control and the latter forms (e.g., *identified regulation*, *integrated regulation*) that are intrinsically controlled. For example, the conditions Stolte (1978) suggests as those leading to a response style reflecting his version of *internalization* (conformative-rigid) are characterized by and are the outcome of a coercive setting and a unilateral/passive-object relationship. Therefore, behaviors, attitudes, and values generated by Stolte's (1978) conditions for *internalization* could also be viewed as conditions associated with *external regulation* or *introjected regulation* because they are the result of more extrinsically derived influences. Likewise, the conditions Stolte (1978) suggests as leading to a response style reflecting his version of *interiorization* (humanistic-flexible) are characterized by and are the outcome of a voluntaristic setting and a bilateral/active-agent relationship. By the same token, behaviors, attitudes, and values generated by Stolte's (1978) conditions for *interiorization* could also be viewed as conditions associated with *identified regulation* and *integrated regulation* because they are the result of more intrinsically derived influences.

Both theories propose concepts of an organismic-environmental interaction that consider internalization in the context of reduced levels of internal control (e.g., unilateral social power, reward and punishment) that contrast with internalization (or interiorization for Stolte) in the context of elevated levels of internal control (e.g., freedom of choice, bilateral input). In short, it could be reasoned that Stolte's (1978) notion of

internalization and Deci and Ryan's (1985) notions of *external* and *introjected regulation* may fundamentally share similar rationale because the related behaviors, attitudes, or values are the products of environmental conditions or internal representations thereof (introjection) that exact control through coercion, contingencies, and consequences. As well, Stolte's (1978) notion of *interiorization* and Deci and Ryan's (1985) notions of *identified* and *integrated regulation* may also fundamentally share similar rationale because the related behaviors, attitudes, and values are the products of conditions that allow for autonomy, contribution, and the pursuit of personal interests.

In addition, both models consider the means by which "something moves from the outside of the mind or personality to a place inside it" (Scott, 1971, p. 3) as inherent to development, constantly active independently and simultaneously, and necessary to the socialization of an individual, regardless of their extrinsic or intrinsic natures or origins. For Stolte it is both *internalization* and *interiorization*; for Deci and Ryan it is one continuum with four levels of internalization.

With regard to the remaining concern posed earlier, as to what determines the levels of internalization, SDT considers the ideal catalyst for internalization to be an intrinsically derived interest, which stems from a person's inclination to satisfy his or her fundamental psychological needs of competence, relatedness to others, and personal autonomy (Deci & Ryan, 1985, 2002). As stated previously, internalization can be initiated with uninteresting psychological material (such as behaviors, attitudes, or beliefs associated with addiction recovery and a drug-free lifestyle) within extrinsically controlled contexts (such as environmental contingencies associated with a legal mandate), and still advance to an integrated status within the person. According to SDT,

individuals initiate the internalization process of alternative psychological material (e.g., novel or different attitudes, beliefs, or behaviors associated with a drug-free lifestyle) because they inherently gravitate toward the acquisition of those things that meet their fundamental psychological needs of competence, relatedness to others, and personal autonomy and gravitate away from those that do not. Therefore according to Deci and Ryan (1985), an intrinsically derived interest toward meeting specific needs initiates and may perpetuate the process of internalization.

For example, individuals afflicted with a substance-use disorder may discover themselves to be incompetent (e.g., unable to meet daily responsibilities), unrelated (e.g., disconnected from social others), and/or dependent versus independent (e.g., obtaining the drug, using the drug, and recovering from drug use episodes dictate most or all aspects of the lifestyle) . By the same token, individuals may recognize alternatives (e.g., wellness, recovery, holistic health, effective social functioning, restoration of driving privileges, freedom from incarceration) presented in their environment through a number of possible modalities (e.g., court program contingencies, therapy sessions, self-help groups, testimonials, observation of others, vicarious learning) as need-meeting ideals and venues. According to Deci and Ryan (1985, 2002), their natural inclination toward meeting inherent psychological needs (competence, relatedness to others, and autonomy) will initiate the process of internalization, which may begin in a lower form (e.g., external regulation) and later catalyze into a more integrated form (e.g., identified regulation) for a more advanced level of amalgamation with the self.

Finally, the SDT model serves to extend the previous assumptions about internalization and the process by which it occurs by providing the conceptual framework

of incremental progression. It is important to acknowledge that Deci and Ryan were not the first to regard internalization to be a gradual process. It was previously considered as such by Vygotsky many years earlier (Rizzo & Corsaro, 1988). However, Vygotsky did not expand on his ideas in this area, which may have evolved to reflect a similar incremental demarcation of internalization. Although the SDT model incorporates several established perspectives across three major fields of psychological study, the emphasis of this investigation is not on which specific mechanisms are engaged to make internalization occur. Rather, the focus is more on the graduated succession of internalization (e.g., some behaviors, attitudes, values are never internalized while others are partially or fully internalized), thereby becoming integrated into what Deci and Ryan (1985, p. 120) term “a unified sense of self.”

Considerations for a Merging of Models

The Transtheoretical Model (TTM) has provided an important perspective as to the temporal progression and some underlying processes that occur as individuals move toward making changes in their lives. The authors (Prochaska & DiClemente, 1983, 1992) and other researchers have made significant strides in understanding human change through the supporting paradigms of the Stages-of-Change (SOC) and the Processes-of-Change (POC). Previous studies have shown the relationships between stage-movement and an individual’s increased use of behavioral and cognitive/experiential processes (Prochaska, 1979; Prochaska & DiClemente, 1983, 1992; Prochaska et al., 1988). Such evidence establishes the POC as important variables that are involved in stage movement, but does not clarify how the processes are initiated or once activated how they are catalyzed to greater potentials in the latter stages of self-change. Likewise the TTM

acknowledges change as often being non-linear and as being cyclical in nature, which may be attributed to possible changes in motivation (DiClemente, 2003). Consequently, the TTM format implies that motivation for change is engaged (DiClemente, 2003), yet is unable to establish motivation as *the* core mechanism facilitating POC and/or stage movement.

The present research proposes internalization, as described by Self-Determination Theory (SDT; Deci & Ryan, 1985, 2002), to be involved with stage movement within the context of the TTM. From the current perspective, the individual internalizes the substance-abuse recovery or change-related values, attitudes, and behaviors. As internalization increases so does the individual's advancement along the TTM continuum, which may influence motivation for change. Therefore, the internalization process, a process by which psychological material (values, attitudes, beliefs, behaviors) moves from the outside to the inside of the person (Deci & Ryan, 1985, 2002; Scott, 1971), may be an underlying variable contributing to a more thorough understanding of the Transtheoretical Model of change. Deci and Ryan's conception of internalization is a viable candidate to be considered as an underlying process because it is able to account for change in persons who may initially lack adequate levels of motivation or fluctuations in motivation that are perceived to create cyclical or non-linear stage movement. It is important to recognize that among the motivation-related research noted previously, it was assumed by the researchers that motivation was intrinsic in nature. Regardless of position on the TTM continuum, if the study participants moved from one stage to the next, the researchers assumed an intrinsic form of motivation was at play. Conversely, motivation for change, as depicted by stage movement, can be either extrinsically derived

or intrinsically derived. The SDT notion of internalization has proven to be a sound nominee for a change-related mechanism because it is able to account for differences that exist between both forms of motivation (Ryan & Deci, 2008).

Researchers from the field of sport psychology were the first to investigate the possible relationship between Self-Determination Theory and the Transtheoretical Model. For example, in their exploratory study, Mullan and Markland (1997) examined the relationship between the Stages-of-Change and what they called “varying degrees of self-determination...on a continuum of behavioral regulation” (p. 350). Their investigation was focused on changes in exercise behavior among 314 study participants in the context of Deci and Ryan’s (1985) “behavioral-regulation” continuum and Prochaska and DiClemente’s (1983) stage-based continuum. Mullan and Markland’s findings, in addition to the findings of subsequent research with similar populations and behaviors, (Daley & Duda, 2006; Ingledeu, Markland, & Medley, 1998; Landry & Solmon, 2004; Wininger, 2007) indicate a relationship does exist between the two theoretical continuums.

The efforts of the above-noted investigators are commendable, as they were the first to pursue empirical investigations into the potential relationship between the two well-established theoretical models. However, the studies mentioned above were initially concentrated on challenging the dichotomy of intrinsic – extrinsic motivation that the researchers considered to limit the scientific understanding of behavioral regulation, specifically where physical activity and exercise were concerned. Therefore, their view of Deci and Ryan’s (1985) continuum was grounded in the regulation of behavior (namely exercise) and graduated forms of extrinsic and intrinsic motivation, which are not

altogether unrelated to change processes or internalization. However, according to Deci and Ryan, “integrated self-regulation is a natural outcome of internalization” and they refer to the previously mentioned continuum as “the internalization continuum” not the behavioral regulation continuum (SDT; 1985, p. 138). Also, the findings of the above noted research were restricted to persons who were attempting to increase exercise behavior or athletic performance. Thus, the findings have limited external validity and therefore limited application to other populations, behaviors, and/or clinical conditions.

For the current study, the continuum will be acknowledged as the “internalization continuum” that represents Deci and Ryan’s original conception of a graduated process of the integration of psychological material with the self. As previously described, such psychological material may include attitudes, values, and beliefs, which for this study are associated with substance-abuse treatment and recovery. Therefore, the present investigation will focus on internalization as it pertains to the Stages-of-Change in the context of treating clinical populations afflicted with substance-use disorders.

Resistance to substance abuse treatment is not uncommon, as has been elaborated by the SAMHSA (2004) study. Individuals with substance-related problems often seek treatment as a result of external forces. A well-researched condition with regard to the TTM and the SOC has been social pressures that occasionally prompt an individual to engage in the treatment process. External sources of treatment initiation and compliance (e.g., family, employer, legal system, social system) are often viewed as deleterious to good treatment progression and outcomes (Day, Tucker, & Howells, 2004; Freedberg & Johnston, 1978; Wild, Newton-Taylor, & Alletto, 1998; Young, 2002; Young & Belenko, 2002). Others have asserted that external pressures to engage in treatment produce similar

outcomes when compared to those who enter treatment of their own accord (Desland, 1994; Desmond & Maddux, 1996). Such conditions have been found to influence motivation (Gregoire & Burke, 2004), an element considered by some to be crucial to SOC movement and treatment outcome (DiClemente et al., 1999). Yet, how is it that Desland (1994) and Desmond and Maddux (1996) found no differences between treatment outcomes of coerced populations and non-coerced populations of substance abuse treatment participants? Because of the empirical evidence derived from these and similar studies, motivation may be regarded as an important construct, but it has difficulty being established as the main source of change and stage movement. Conversely, Deci and Ryan's (1985) concept of graduated internalization is able to describe the differences in motivation (in terms of graduated extrinsic regulation or preexisting intrinsic regulation), which suggests internalization as a possible mechanism by which the motivation implied by movement along the TTM stage continuum may be better understood.

As previously suggested, the literature regarding underlying mechanisms for stage movement remains incomplete. Although substantial research has focused on a wide range of variables associated with stage movement within the TTM, to date the possible role of internalization has been unexplored. Clearly stated, in the context of clinical problems and conditions, the literature is non-existent where the relationship between the client's level of internalization (as presented by SDT; Deci & Ryan, 1985) and the client's Stage-of-Change (as presented by TTM: Prochaska & DiClemente, 1983, 1992) are concerned. It is the objective of the present study to provide the initial investigation into the relationship between these two important variables as they relate to the clinical

syndrome indicative of substance-use disorders. Therefore, the current study seeks to determine if the SDT conception of graduated internalization is related to the stage position along the TTM continuum with more advanced levels of internalization being associated with latter stages-of-change and less advanced levels of internalization being associated with earlier stages-of-change.

CHAPTER III: HYPOTHESES

Overview

According to Deci and Ryan (1985), a cardinal feature of the less advanced forms of internalization, which is not a feature of the more advanced forms, is the need for, and presence of external control. Therefore, during the earlier Stages-of-Change, the internalization of change-behaviors by an individual is expected to be accomplished through external control or through internal representations of external control. By the same token, during the latter Stages-of-Change, the internalization of novel behaviors (e.g., treatment participation, self-help attendance, abstinence) by the individual is expected to be accomplished without external influence; rather, the behaviors are engaged in because they are becoming integrated with the individual's sense of self.

Consequently, in the primary hypothesis of this study, it was hypothesized that as individuals advance across the continuum of change, as depicted by the Stages-of-Change, they also increase in their level of internalization of related values, attitudes, and behaviors, as depicted by Deci and Ryan's (1985) continuum of graduated internalization. Six additional, related hypotheses were developed.

Operational Definitions for Hypotheses

The following definitions elaborate on concepts associated with the specific hypotheses:

Stage-of-Change represents which category of change (e.g., precontemplation, contemplation, action, or maintenance) a study participant is currently in based on Prochaska and DiClemente's (1985) Transtheoretical Model of change. Each participant's stage-of-change was measured by the University of Rhode Island Change Assessment (URICA; McConaughy, Prochaska, & Velicer, 1983).

Internalization represents which category of regulation (e.g., external, introjected, or identified) the study participant is currently in based on Deci and Ryan's (1985) model of graduated levels of internalization and was measured by the Treatment Entry Questionnaire (TEQ; Wild, Cunningham, & Ryan, 2006) .

Perceived External Control represents a study participant's degree of perceived extrinsic control or external influence to participate in a drug or alcohol treatment program. It was measured by the Perceived Coercion Questionnaire (PCQ; Klag, Creed, & O'Callaghan, 2006) and has been denoted as PEC.

Sanctions are a numerical representation of the frequency and intensity of all sanctions imposed over the course of the past three months for one study participant as reported by that study participant. The following calculation procedures determined "Sanctions": 1) The number of times (frequency) a sanction had been imposed was multiplied by the intensity of said sanction; 2) The products of the first procedure were summed to produce an overall numerical value that was identified as Sanctions for each study participant. The next three paragraphs describe in more detail what is meant by a "sanction," as well as "frequency" and "intensity."

Program Sanction – A negative consequence imposed by the presiding judge of a Drug Court Program for actions or behaviors (e.g., drug use, missing treatment

sessions) engaged in by the study participant that have violated the rules, policies, or expectations of that Drug Court Program. For more information regarding the Drug Court model of substance abuse intervention, refer to Appendix A.

Sanction Intensity – The potency, magnitude, or costs of a punishment relative to other punishments imposed by a presiding judge. Sanction intensity was classified into three levels and was assigned values (low = 1, medium = 2, high = 3) by a panel of Drug Court team members (e.g., a judge, a probation officer, a court coordinator, a treatment professional) via consensus following the completion of data collection for all sites. Classification followed a logical progression from low (e.g., verbal admonition by a judge) to medium (e.g., increase in required community service hours) to high (e.g., short-term incarceration, such as 6 to 72 hours).

Sanction Frequency – The number of times which a participant reports that any given sanction is imposed over the course of the previous three months. Three months allowed for approximately six status hearings to occur.

Specific Hypotheses

H1: Stages-of-change and Internalization – The self-reported stage status (Precontemplation, Contemplation, Action, or Maintenance), as measured by the URICA, will have a statistically significant positive relationship with the self-reported status of internalization (e.g., *External Regulation, Introjected Regulation, Identified Regulation*), as measured by the TEQ (see Figure 1).

H2: Stages-of-change and Perceived External Control – The self-reported stage status (e.g., Precontemplation, Contemplation, Action, Maintenance), as measured by the URICA, will have a statistically significant negative relationship with the self-reported degree of perceived external control (PEC), as measured by the PCQ (see Figure 1).

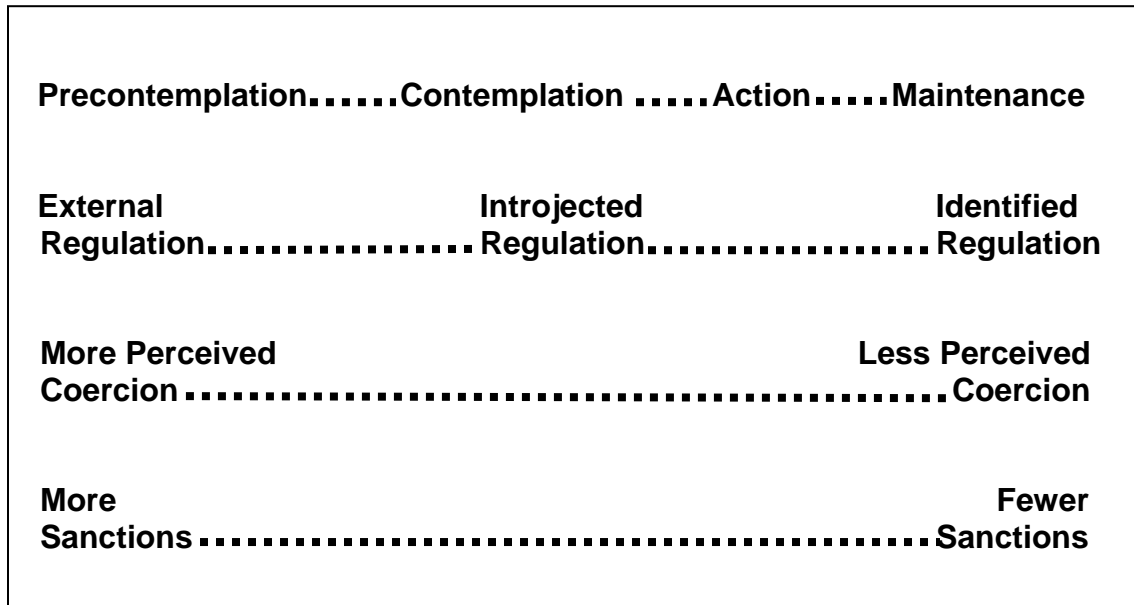


Figure 1. **Hypotheses Diagram**

H3: Stages-of-change and Sanctions – The self-reported stage status (e.g., Precontemplation, Contemplation, Action, Maintenance), as measured by the URICA, will have a statistically significant negative relationship with the self-reported incidence of Sanctions, as determined by summing the products of the frequency and intensity of sanctions imposed within the previous three months (see Figure 1).

H4: Internalization and Perceived External Control – The self-reported status of internalization (e.g., External Regulation, Introjected Regulation, Identified Regulation),

as measured by the TEQ, will have a statistically significant negative relationship with the self-reported status of perceived external control (PEC) as measured by the PCQ.

H5: Internalization and Sanctions – The self-reported status of internalization (e.g., External Regulation, Introjected Regulation, Identified Regulation), as measured by the TEQ, will have a statistically significant negative relationship with the self-reported incidence of Sanctions, as determined by summing the products of the frequency and intensity of sanctions imposed within the previous three months (see Figure 1).

H6: Perceived External Control and Sanctions – The self-reported status of perceived external control (PEC), as measured by the PCQ, will have a statistically significant positive relationship with Sanctions, as determined by summing the products of the frequency and intensity of sanctions imposed within the previous three months (see Figure 1).

H7: Introjected Regulation, Contemplation, and Action – Among *Introjected Regulators*, as measured by the TEQ, there will be significantly more ($p < .05$) participants categorized as in either the Contemplation or Action stages, as measured by the URICA, when compared to the number of participants categorized as in either the Precontemplation or Maintenance stages.

CHAPTER IV: METHOD

Participants

The sample was comprised of individuals who were currently involved in a legally mandated substance abuse treatment program and who had initially been charged with drug or alcohol-related crimes (e.g., driving under the influence-DUI, use or possession of illegal drugs, etc.). As a part of the offender's initial hearing he or she had been offered the opportunity to participate in a specialized program in lieu of the typical sentencing protocol (e.g., incarceration, fines, community service). The program has been termed "DUI Court or Drug Court" and is designed to rehabilitate the offender by addressing the substance-use disorder (more information regarding the DUI Court/Drug Court model of substance abuse intervention is available in Appendix A).

The sample consisted of 237 participants, 72.3% of whom were males. The participants ranged in age between 18 and 66 years-old, with a median age of 33 and a mean age of 35.7 (standard deviation of 11). The majority of the participants were Caucasian (80.4%), with 12.3% African American, 3.4% Hispanic, 1.3% American Indian, and 2.6% identifying themselves as "Other." The "drug-of-choice" for the participants fell primarily within two groups: 37.1% indicated they preferred alcohol, while 40.1% indicated they preferred multiple combinations (e.g., alcohol and cocaine; marijuana and methamphetamine, etc.). The remaining participant preferences were as

follows: 11.8% methamphetamine, 4.6% cocaine, 4.6% marijuana, and 4% prescription medications and opiates.

The court programs themselves ranged from a minimum of 12 months up to 36 months. Program completion requirements tend to vary by program, but often include specific goals related to treatment, abstinence, and general compliance. Some participants remain in the program beyond the expected period because they are unable to meet the program goals within the standard time period. For the participants, the length of time in the program prior to the study ranged from “this is my first day” up to 42 months. The median period of time was 10 months with a mean of 10.86 months (standard deviation of 7.6 months). The amount of time before the participants expected to finish the program ranged from “today is my last day” up to 11 months. The median period of time for this estimate (provided by the participants) was 9 months with a mean of 9.7 months (standard deviation of 6.65 months).

Instruments

Demographic Data Sheet (Appendix B)

The demographic data sheet was developed by the present author for the purpose of collecting demographic information from the study participants, while preserving their anonymity. Consistent with the reasoning behind the use of the PCQ, the data sheet was used to collect information regarding the study participants’ recent sanction history, as said history was expected to provide behavioral evidence of external control being applied.

University of Rhode Island Change Assessment (Appendix C)

The stages-of-change (SOC) was measured by the University of Rhode Island Change Assessment scale (URICA; McConnaughy, Prochaska, & Velicer., 1983), which has been adapted specifically for populations with alcohol or drug problems (DiClemente & Hughes, 1990). The URICA is a 32-item pencil and paper instrument. Twenty-eight of the items are designed to measure four theoretical stages through which an individual progresses when changing their substance-use behaviors. The remaining 4 items are unrelated to the stage constructs and are not used in scoring.

Each of the four subscales is intended to reflect the stages proposed by Prochaska and DiClemente (Precontemplation, Contemplation, Action, Maintenance; 1983, 1992). For example, items within the Precontemplation subscale include #1, “As far as I am concerned, I don’t have any problem that needs changing” and #13, “I guess I have faults, but there is nothing I really need to change.” An example of the items comprising the Contemplation subscale is #2 “I think I might be ready for some self-improvement” and #15, “I have a problem and I really think I should work on it.” Items reflecting the construct of Action include #10, “At times my problem is difficult, but I am working on it” and #25, “Anyone can talk about changing, but I am actually doing something about it.” And lastly, examples of the items reflecting the Maintenance stage include #22, “I may need a boost right now to help me maintain the changes I’ve already made” and #27, “I’m here to prevent myself from having a relapse of my problem.” A listing of the items associated with each subscale is provided in Appendix C-1.

Each subscale is made up of seven items. The items are presented in the form of statements for which the respondent uses a 5-point scale to rate each statement as it

applies to him or her (1=Strongly Disagree; 2= Disagree; 3 Undecided; 4=Agree; 5=Strongly Agree). The individual’s score and placement on the stage-of-change continuum is obtained through the following steps: 1) Calculate the mean scores for each of the subscales measuring Precontemplation, Contemplation, Action, and Maintenance; 2) Sum the mean scores of only the Contemplation, Action, and Maintenance subscales; 3) Subtract from the sum generated from the second step the mean score of the Precontemplation subscale (e.g., [Avg. of C + Avg. of A + Avg. of M] – Avg. of PC); and finally 4) Compare the remainder to a table developed from the original research (see Table 4.). For example, if a hypothetical respondent’s answers to the items on each of the scales generated the following mean values: PC = 1.1, C = 4.4, A = 4.6, M = 4.9; the second and third step would thereby generate the following: $(4.4 + 4.6 + 4.9) - 1.1 = 12.8$. The last step would be to determine the respondent’s position on the stage-of-change continuum by comparing the remainder to the table. A score of 12.8 would place the hypothetical respondent in the Action stage because the score falls between 11.81 and 13.40. The table presents the mean values associated with each of the subscales that resulted from the cluster analyses conducted in the initial research. Because the URICA is a continuous measure, the mean values serve as norm-based “cut-offs” or stage-related “benchmarks” that facilitate in the determination of the stage-of-change that corresponds with an individual’s responses.

Table 4. URICA Stage Assignment Table

Stages-of-Change				
Range of Mean Values	Precontemplation	Contemplation	Action	Maintenance
	-2 – 10.15	10.16 – 11.80	11.81 – 13.40	13.41 – 15

The internal consistency values (Cronbach's alpha) for the subscales (precontemplation, contemplation, action, maintenance) reflect adequate reliability and range from .79 to .89 (McConaughy, Prochaska, and Velicer, 1983). Discriminate and convergent validity between and among the scales was also initially investigated by McConaughy et al. (1983), which was later replicated by McConaughy, DiClemente, Prochaska, and Velicer (1989). The results of the more recent of the two studies involved a population of 323 participants and found the Precontemplation subscale to correlate negatively with the Contemplation (-.52), Action (-.23), and Maintenance (-.22) subscales. The findings included positive correlations between Contemplation and Action (.53) and Contemplation and Maintenance (.45) subscales. The results were verified again by Blanchard et al. (2003) while conducting research that compared two methods of scoring, a continuous method versus a cluster analysis subtyping method. The population sample used by Blanchard et al. (2003) consisted of 252 individuals participating in substance abuse treatment. Analyses by Blanchard et al. (2003) found the Precontemplation subscale to be negatively correlated with the Contemplation, Action, and Maintenance subscales, with correlations ranging from $-.40$ to $+.60$. The also found the Contemplation, Action, and Maintenance subscales to be positively correlated with each other, with correlations ranging from .35 up to .59. The authors of this study concluded neither method of scoring demonstrated clear superiority; however, the continuous method was expected to have increased clinical utility because of the brief period of time required and the ease with which an individual's position on the SOC continuum may be established (Blanchard, et al., 2003).

Convergent and concurrent validity of the Precontemplation, Contemplation, and Action subscales of the URICA was established by Amodei and Lamb (2004) using an instrument identified as the Contemplation Ladder. The Contemplation Ladder consists of three subscales similar to the first three subscales in the URICA. The Ladder's subscales differentiate between individuals who have *no plans* to change smoking behavior, those who had *definite plans* to change smoking behavior, and those who had *recently changed* smoking behavior. Using a population of 183 smokers, the investigators administered both instruments and found the subscales of Precontemplation, Contemplation, and Action and the Contemplation Ladder's subscales (no plans, definite plans, and recently changed) to positively correlate (.77 - .90) in the discrimination of participants' intent or action across the three categories of change in smoking behavior.

Treatment Entry Questionnaire (Appendix D)

Deci and Ryan's (1983) concept of Internalization was measured by the Treatment Entry Questionnaire (TEQ; Wild, Cunningham, & Ryan, 2006), which is a 42-item scale that includes 27 items designed by the authors to distinguish among clients whose attitudes and behaviors reflect the constructs of External regulation, Introjected regulation, or Identified regulation, as they relate to participation in substance abuse treatment. The remaining 15 items constitute subscales unrelated to the construct of internalization (see Appendix D-1). The External Regulation subscale is comprised of 12 items and is intended to measure the degree to which the respondent's substance abuse treatment values, attitudes, or behaviors are influenced by contingencies or external demands. An example is #8, "Being in the program is a way for me to avoid getting punished for my behaviors." The Introjected Regulation subscale is comprised of 6 items.

This scale is intended to measure the degree to which the respondent's substance abuse treatment values, attitudes, or behaviors are influenced by internal representations of external demands or expectations that generate negative cognitions, such as guilt and shame. An example is #20, "I plan to go through with treatment because I'll be ashamed of myself if I don't." The Identified Regulation subscale is comprised of 9 items. This scale is intended to measure the degree to which the respondent's substance abuse treatment values, attitudes, or behaviors are *not* influenced by contingencies or external demands, but rather are chosen because they are in alignment with other values, attitudes or behaviors already adopted by the respondent. An example is #32, "I plan to go through with the program because not abusing alcohol or drugs is the choice I really want to make."

The TEQ items are presented in the form of statements for which a respondent uses a 7-point scale with three anchor points (1=Strongly Disagree; 3=Neutral; 7=Strongly Agree) to rate each statement as it applies to him or her. The score is calculated by summing the responses within each subscale and dividing the sum by the number of items within said subscale to obtain a mean score for each scale. The subscale (e.g., External, Introjected, or Identified) associated with the highest mean value is considered to represent the respondent's level of internalization (see Appendix D-1).

Based on a sample population of 300 persons seeking substance abuse treatment, Wild et al. (2006) reported adequate internal consistency values for the TEQ subscales (Cronbach's alpha = .89 for *external* regulation; .85 for *introjected* regulation; and .84 for *identified* regulation). Using an analysis of variance (ANOVA) Wild et al. (2006) found the TEQ subscales to have convergent and divergent validity. Social pressure, as

measured by the Social Pressure Index (Polcin & Weisner, 1999) and referral source (legal or employer mandate) were found to have a relationship with the subscales measuring *external* and *introjected* regulation ($r = .24 - .39, p < .01$) and no relationship with the subscale measuring *identified* regulation. Moreover, perceived coercion, as measured by MacArthur Perceived Coercion Scale (Gardner et al., 1993), was positively correlated with the *external* subscale ($r = .30, p < .001$), uncorrelated with the *introjected* subscale, and negatively correlated with the *identified* scale ($r = -.34, p < .01$). In addition, the *external* subscale was negatively correlated with subject's self-report of perceived alcohol dependence ($r = -.22, p < .01$) and uncorrelated with perceived drug dependence. In contrast, the *identified* subscale was positively correlated with subject's self-report of both perceived alcohol dependence ($r = .22, p < .01$) and perceived other drug dependence ($r = .25, p < .001$).

Perceived Coercion Questionnaire (Appendix E)

This instrument was selected to measure the presence of external control or rather the perception of external control. It was important to ascertain the presence of external influence because of Deci and Ryan's (1985) assertion that internalization of a given belief, attitude, or behavior can occur despite the presence of extrinsic conditions. Therefore, perceptions of external control were measured with the Perceived Coercion Questionnaire (PCQ; Klag, Creed, & O'Callaghan, 2006), which is an instrument designed to assess an individual's perception of the presence of extrinsic control that includes six sources (self, family, legal, finance, health, and work). Five out of the six subscales are clearly designed to measure coercion to participate in a substance abuse treatment program from external sources; however, the "Self" scale appears to measure

an internal form of coercion or pressure. For example item #1 is, “I feel pressure to participate in this drug/alcohol treatment program...because I know that I’m an addict/alcoholic and that I need rehab to get off drugs/alcohol” and #3 is “I feel pressure to participate in this drug/alcohol treatment program...because I feel horrified and ashamed of the person I have turned into.” A listing of the items associated with each subscale is provided in Appendix E-1.

The PCQ is a continuous measure; therefore, a higher score implies a greater degree of coercion is perceived by the respondent. The instrument contains 30 items that are presented in the form of statements for which a respondent uses a 5-point scale (1=Strongly Disagree; 2=Somewhat Disagree; 3=Neither Agree or Disagree, 4=Somewhat Agree; 5=Strongly Agree) to rate each statement as it applies to him or her. Raw scores may range from 30 to 150.

The PCQ was administered to a sample of 362 drug and alcohol users participating in substance abuse treatment in 6 independent settings. An analysis of the instrument’s reliability produced adequate internal consistency values (Cronbach’s alpha) for the subscales ranging between .66 and .87, with the total internal consistency reported as .87 (Klag et al., 2006). In addition, the PCQ items reflect sound face validity. For example, to the statement, “I felt pressure to participate in drug/alcohol treatment because...” the respondent has the option of endorsing items like #11, “I was legally required” or #27, “My employer threatened to fire me”. Klag et al. (2006) found the PCQ to have acceptable divergent validity, which was demonstrated by a negligible relationship (overall r value of .04 and r values for the PCQ subscales ranging between .03 and .10) when correlated with the Spirituality Transcendence Index (STI; Seidlitz et

al., 2002). The STI is a measure of spirituality and was considered by Klag and colleagues to assess constructs unrelated to coercion.

Observer Rating Forms (Appendix F and F-1)

Prior to the status hearing, the judge and the service providers, which included case managers, therapists, and program coordinators, were recruited (Appendix F) during the pre-court staff meeting. For an average of 30 minutes those volunteering to participate were provided education by the primary researcher that included a handout (Appendix G) followed by a discussion regarding the related concepts. The judge and service providers were also provided forms on which they could record their ratings of each participant (Appendix F and F-1).

Data Collection Procedures

Following approval by Auburn University's Institutional Review board, data collection was conducted by the primary researcher and a research assistant under the supervision of a faculty advisor from the Department of Counselor Education, Counseling Psychology, and School Psychology. Permission for access to DUI and Drug Court program participants was granted by the presiding judge of each of the programs.

Study participants were recruited in North, East, and West Georgia from one DUI Court, one Drug Court, and two hybrid programs (DUI-Drug Courts) that included participants who had been convicted of either DUI or drug-related charges or both.

Prior to the established day and time for data collection the coordinator of each program was asked to designate a room separate from the court room that was unaffiliated with the court program, on another floor, but within the same building (e.g., conference room, training room, etc.). The room was accessible to the researcher, the

research assistant, and volunteer participants only. This step was taken in effort to reduce potential perceptions by the participants of coercion to participate in the present study.

Three-hundred-twelve individuals were invited to take part in the current study with the final sample consisting of 237 participants. Although 248 participants agreed to participate in the study, 11 of the research packets had to be purged from the analysis because of incomplete data. As an incentive, those who participated were eligible for a drawing that awarded a \$25 Wal-Mart or Home Depot gift card to the winners. One gift card was added for every 10 participants. A total of 28 gift cards were used for the drawings.

In order to gather collaborative information regarding an individual's stage-of-change and degree of internalization, the judge and other service providers were recruited to provide their perceptions of each participant's position on the continuum of change and the continuum of internalization. Prior to the status hearing the judge and other members of the program team that provide services to the participants (e.g., case managers, therapists, and program coordinators) were recruited to provide ratings regarding where they perceived each study participant was on the Stage-of-Change and the internalization continuums. During the pre-court staff meeting those willing to participate in the rating process were provided education on the related concepts (SOC – Precontemplation, Contemplation, Action, Maintenance; Internalization – External, Introjected, and Identified Regulation) and instructions for recording their perceptions. The rating process took place during the status hearing. Although not all types of service provider perspectives were available at every setting, each individual was rated by no less than the presiding judge and one other member of the program team (e.g., therapist, case

manager, or coordinator). However, the majority (71.5%) were rated by 2 or more program team members in addition to the judge's rating.

The length of time the presiding judge had served on the bench in a DUI or Drug court setting ranged from 3 to 6 years, with a mean of 4.75 years (standard deviation of 1.25). The average length of time serving as a judge at the state or superior court level was 18 years (standard deviation of 7.65). Therapists' experience with treating DUI or Drug Court participants ranged from 3 to 6 years, with a mean of 4.38 (standard deviation of 1.25). Case managers' experience serving DUI or Drug Court participants ranged from 1 to 6 years, with a mean of 3.63 (standard deviation of 2.14). Coordinator's experience with DUI or Drug Court participants also ranged from 1 to 6 years, with a mean of 3.63 (standard deviation of 2.14)

Sample Selection

Invitation for participation. As the Drug Court participants approached the courtroom, the research assistant distributed a research information sheet (see Appendix I) describing the current study for each participant to review. The document described the purpose of the study and how the data would be used. The research assistant used a prepared script (Appendix J) to direct the potential participants to a designated room where the primary researcher provided more information to those who were interested in participating. The primary researcher then read a prepared script (Appendix K) aloud to the potential study participants that elaborated on the research information sheet previously provided by the research assistant. The primary researcher then encouraged and responded to questions or concerns posed by the potential study participants. After the invitation had been extended, those willing to participate in the study remained in the

room designated for data collection and did so before their individual interaction with the presiding judge. The specifics of this process are described in the next paragraph.

Sampling process. In order to minimize the disruption to usual court proceedings, the presiding judge agreed in advance to delay the start of the status hearing for 35 to 45 minutes. The judge had also agreed that during this period neither he or she nor any member of the program team would enter the courtroom, as doing so would compromise the anonymity of the court program participants with regard to their decision to take part in the current study. Longer lengths of time were required for larger groups of volunteer participants. The time needed to respond to the research materials (e.g., data sheet and questionnaires) was estimated to be between 15 and 35 minutes. The shortest amount of time a volunteer required was 12 minutes and the longest was 40 minutes. Immediately following completion of their research materials, the study participants were required to return to the courtroom no later than the designated start -time of the status hearing.

Procedures for Data Collection and Drawing

Each study participant was given a pen, an empty sealable envelope, and a packet of information to complete. The packet consisted of the demographic data sheet that was designed to maintain the respondent's anonymity (Appendix B), and the questionnaires previously noted (URICA, TEQ, PCQ; Appendix C through Appendix E). The study participants were allowed privacy to complete the packet, but did do so under the supervision of the primary researcher, who was responsive to additional questions or concerns.

Upon completion of the measures the study participant placed their materials inside the envelope provided, sealed it, and returned the packet to the researcher. There

were two instances in which study participants elected to discontinue their participation. They returned the research materials to the primary researcher without completing them.

After returning the sealed envelope containing the research materials, each study participant received two tickets that were identically numbered for the drawing. The researcher recorded the study participant's ticket number on the envelope containing his or her research materials. The study participant was then told what time to return to the court room for the status hearing. Study participants were instructed to keep one of the tickets and present the other ticket to the research assistant when they were called to have their status processed by the presiding judge. The back of the identically numbered tickets bore a randomly assigned *even* number on the back. There were no other markings on the tickets. In addition to the tickets for the drawing, study participants were provided a mental health referral list to be used in the event they experienced negative cognitive or emotional reactions as a result of participating in the current study. The study participants were also informed that they had to be present to be eligible for the drawing, which was held in the courtroom.

Procedures for Persons Declining Study Participation

Drug Court program participants who declined participation in the study were also provided two identically numbered tickets immediately following the report of their decision to the primary researcher. One they kept and one they were asked to present to the research assistant when their name was called during the status hearing. However, the numbered tickets for non-participants bore a randomly assigned *odd* number on the back. The odd number on the back allowed the research assistant to discretely place the tickets in the "non-participant" container, which was housed in a larger container. Only the

primary researcher and the assistant were aware that the odd-numbered tickets were being placed in one container and the even-numbered tickets were being placed in the other container; both of which were housed in the larger “drawing” container. The ticket procedure for persons declining participation in the study served to protect the anonymity of both participants and non-participants, as the judge and the Drug Court team were not able to distinguish who took part in the study or who declined because all program participants possessed a ticket.

Procedures for Judges

The presiding judge entered the courtroom no earlier than thirty-five to forty-five minutes past the usual start time. By doing so, he or she was not aware as to who participated in the study and who did not, because all program participants had returned to the courtroom within that time period. The judge then began calling each of the Drug Court program participants to process the status of said participants, and did so in the order he or she deemed appropriate.

After calling the participant, the judge asked that one of the participant’s numbered tickets provided by the researcher be given to the research assistant. The research assistant called out the ticket number audibly enough for the other observer/raters in the courtroom to hear and record the number. The judge then recorded the ticket number on the Judge’s Rating Form (Appendix F), as well as his or her perception of that participant’s position on the Stage-of-Change continuum and the Internalization continuum using the Judge’s Rating Form. This procedure allowed the data to remain anonymous because the judge was familiar with the participant by sight, but recorded his or her ratings by the ticket number.

After dismissing the participant, the research assistant placed the ticket in a “drawing” container that was non-transparent. As noted earlier, two small containers were discretely nestled in this larger “drawing.” The research assistant determined which smaller container (participant or nonparticipant) to place the ticket in based on the random even or odd number recorded on the back.

Procedures for Service Providers

Consistent with the procedure used with the presiding judge and with regard to participant anonymity, the service providers entered the courtroom no earlier than thirty-five to forty-five minutes past the usual start time. After the research assistant called the ticket number aloud the service provider (e.g., therapist, case manager, and/or coordinator) recorded the number and then recorded his or her perception of that participant’s position on the Stage-of-Change continuum and the Internalization continuum using the Service Provider Rating Form (Appendix F-1).

CHAPTER V: RESULTS

The purpose of this study was to investigate the potential relationship between an individual's present location on Prochaska and DiClemente's (1983, 1992) Stages-of-Change continuum and their level of integration based on Deci and Ryan's (1985) continuum of graduated internalization within the context of mandated substance abuse treatment. This chapter provides the results of the statistical analyses used to test the hypotheses of the present study. The initial section will provide a summary of the distributions and descriptive statistics associated with the three questionnaires. The next eight sections of this chapter will focus on the results of the statistical analyses conducted to examine the seven hypotheses described in the preceding chapter and the data generated by observer ratings. The final section will focus on post hoc analyses and additional statistical findings.

Two-hundred-thirty-seven individuals currently participating in a court-mandated treatment program volunteered to contribute data to the present study by completing a Demographic Questionnaire and three measures (URICA, TEQ, PCQ). On the Demographic Questionnaire, two participants did not report their age, two participants did not report their ethnicity, and four participants did not report the phase of the program they were currently in. For all three measures there were a total of five missing responses.

The sample consisted of individuals at five levels or phases of the court-treatment process, with Phase I representing the newest participants and Phase V representing those closest to program completion (see Appendix A for more information regarding phases). Participants were distributed as follows: 34.6 percent (82) in Phase I, 12.2 percent (29) in Phase II, 24.5 percent (58) in Phase III, 14.8 percent (35) in Phase IV, and 12.2 percent (29) in Phase V (see Figure 2).

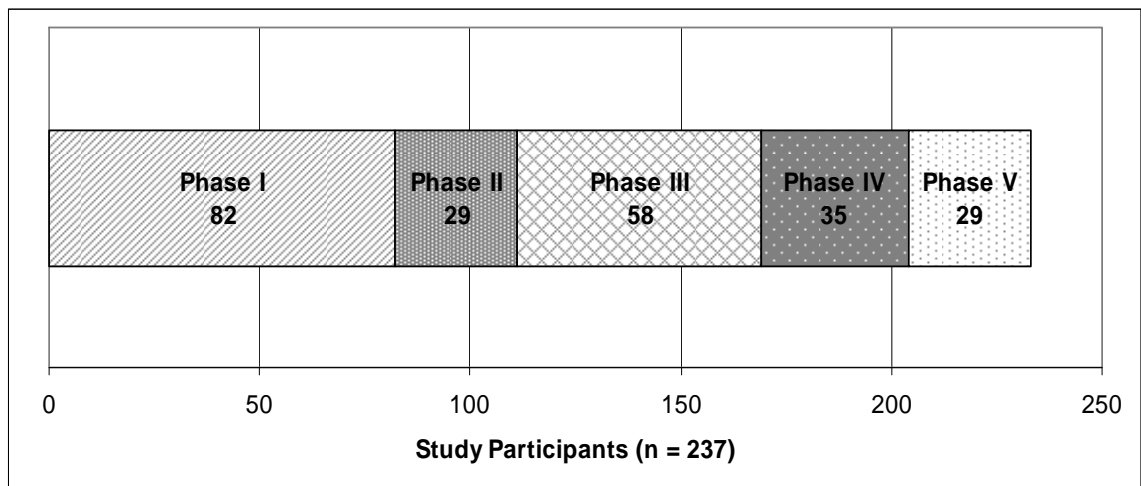


Figure 2. Distribution of Participants by Court Program Phase Assignment

Distributions and Scale Statistics for the URICA

The participants' position on the Stage-of-Change continuum was measured by the University of Rhode Island Change Assessment (URICA; McConaughy, Prochaska, & Velicer, 1983). Participant responses were based on a 5-point Likert-type scale (1-5), with 1 representing strong disagreement and 5 representing strong agreement with the item. Twenty-eight of URICA items were designed to identify which of the four stages the respondent was currently in with regard to altering his or her substance-use behaviors,

which would include alcohol, drugs, or both. The current study's sample indicated that 39.7 percent (94) participants responded to the URICA regarding their behavior with alcohol, 34.2 percent (81) responded regarding their behavior with drugs, and 26.2 percent (62) responded regarding their behavior with both alcohol and drugs.

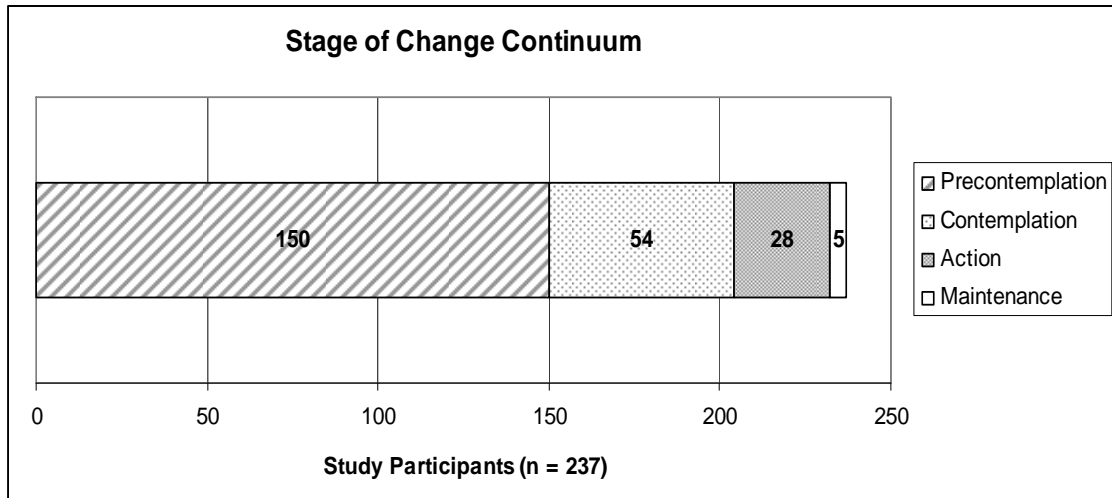


Figure 3. Distribution of Participants by Stage Assignment

The distribution of scores produced by the 237 participants who responded to the URICA questionnaire was as follows: 150 (62.2%) of the individuals' scores placed them in the Precontemplation stage, 54 (22.4%) of the individuals' scores placed them in the Contemplation stage, 28 (11.6%) of the individuals' scores placed them in the Action stage, and 5 (2.1%) of the individuals' scores placed them in the Maintenance stage (see Figure 3).

The Precontemplation subscale consisted of seven items intended to assess for attitudes and behaviors consistent with a respondent's perception of no need or intention

to change. The scores within this scale ranged from .29 to 10.14 (n = 150). The Cronbach alpha coefficient for the present study's Precontemplation subscale was .83.

The Contemplation subscale consisted of seven items intended to assess for attitudes and behaviors consistent with a respondent who is in the process of evaluating the need for and the tasks associated with change. The scores within this scale ranged from 10.29 to 11.71 (n = 54). The Cronbach alpha coefficient for the present study's Contemplation subscale was .86.

The Action subscale consisted of seven items intended to assess for attitudes and behaviors consistent with a respondent who has begun implementing an established plan for change. The scores within this scale ranged from 11.86 to 13.29 (n = 28). The Cronbach alpha coefficient for the present study's Action subscale was .83.

The Maintenance subscale consisted of seven items intended to assess for attitudes and behaviors consistent with a respondent who has successfully established the desired change(s) as the status quo. The scores within this scale ranged from 13.57 to 14.0 (n = 5). The Cronbach alpha coefficient for the present study's Maintenance subscale was .82. Based on the computed alpha coefficients for the subscales, the data produced by the URICA regarding participant location on the Stage-of-Change continuum is considered to be reliable.

Distributions and Scale Statistics for the TEQ

The individual's position on the internalization continuum was measured by the Treatment Entry Questionnaire (TEQ; Wild et al., 2006). Participant responses were based on a 7-point Likert-type scale (1-7), with 1 representing strong agreement and 7 representing strong disagreement with the item. Twenty-seven of the TEQ items were

designed to place a respondent in one of three categories along a continuum of internalization. Based on the subscale scores, the current study's sample indicated that 15.6 percent (37) participants were categorized as External Regulators, 7.2 percent (17) were categorized as Introjected Regulators, and 77.2 percent (183) were categorized as Identified Regulators (see Figure 4).

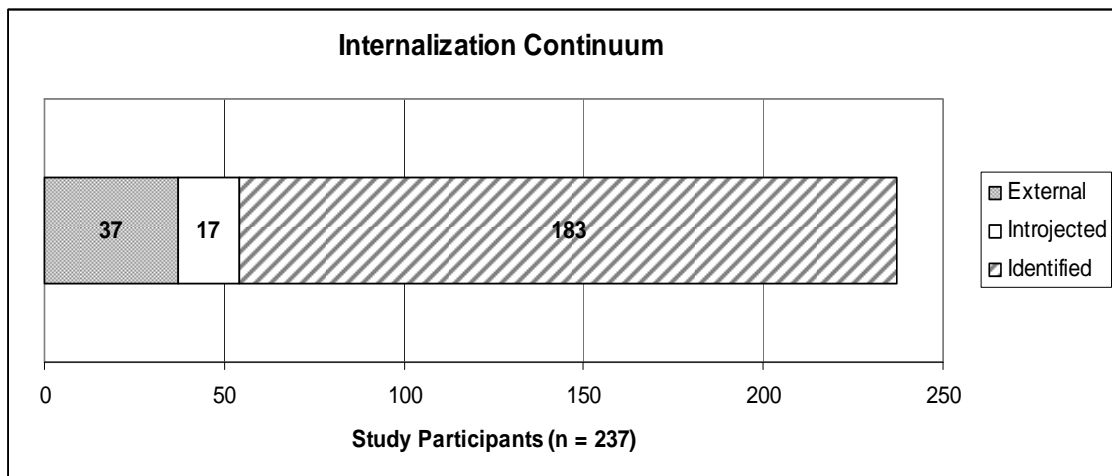


Figure 4. Distribution of Participants by Level of Internalization

The External Regulation subscale consisted of twelve items intended to measure the degree to which the respondent's substance abuse treatment behavior (e.g., attendance, participation, etc.) is influenced by external sources (e.g., legal consequences). Higher scores on this scale reflect a greater tendency for treatment behavior to be shaped by contingencies and external conditions. The mean participant response to the items on the External Regulation subscale was just below the mid-point at 3.40 with a standard deviation of 1.12. The average full-scale score from the current

sample ranged from 24.66 to 63.34 (mean = 40.83; standard deviation = 13.44). The Cronbach alpha coefficient for the present study's External Regulation subscale was .81.

The Introjected Regulation subscale consisted of six items intended to measure the degree to which the respondent's substance abuse treatment behavior is reinforced by internal reactions (e.g., guilt, shame) to internal representations of external sources (e.g., significant other, parent, employer, etc.). Higher scores on this scale reflect a greater tendency for treatment behavior to be engaged in because of the cognitive and/or emotional corollaries that emanate from external source(s). The mean participant response to the items on the Introjected Regulation subscale was close to the mid-point at 3.93 with a standard deviation of 1.54. The average full-scale score from the current sample ranged from 18.31 to 28.38 (mean = 23.58; standard deviation = 9.22). The Cronbach alpha coefficient for the present study's Introjected Regulation subscale was .84.

The Identified Regulation subscale consisted of nine items intended to measure the degree to which the respondent's substance abuse treatment attitudes and/or behaviors are chosen because they are congruent with his or her values and goals and are beginning to reflect their sense of self. Higher scores on this scale reflect a greater tendency for their treatment-related behaviors to be in alignment with the respondent's values. The mean participant response to the items on the Identified Regulation subscale was above the mid-point at 5.19 with a standard deviation of 1.58. The average full-scale score from the current sample ranged from 40.82 to 51.23 (mean = 46.68; standard deviation = 14.20). The Cronbach alpha coefficient for the present study's Identified Regulation subscale was .92. Based on the computed alpha coefficients for the subscales, the data generated

by the TEQ regarding participant category on the internalization continuum is considered to be reliable.

Distributions and Scale Statistics for the PCQ

The perception of external control was measured by the Perceived Coercion Questionnaire (Klag et al., 2006). Participant responses were based on a 5-point Likert-type scale (1-5), with 1 representing strong disagreement and 5 representing strong agreement with the item. The 30-item instrument is a continuous measure designed to assess the degree and source(s) of coercion to participate in substance abuse treatment. Higher scores reflect increased perceptions of coercion. The scores from the current sample ranged from 37 to 139. The overall mean for the PCQ was 83.36, with a standard deviation of 23.36. The subscales reflecting the greatest sources of coercion (as measured by the scale mean values) were the Self and Legal subscales (see Figure 5). As with the URICA and TEQ, the PCQ's overall internal consistency was assessed using Cronbach's alpha coefficient, which yielded an alpha coefficient for the present study of .92.

The Self subscale consisted of 5 items intended to measure perceived coercion from internal sources to engage in substance abuse treatment. The mean participant response to the items on the Self subscale was 3.25 with a standard deviation of 1.47. The average full-scale score was 16.27 with a standard deviation of 5.78. The Cronbach alpha coefficient for the present study's Self subscale was .85.

The Family subscale of the PCQ consisted of 5 items intended to measure perceived coercion from family members to participate in substance abuse treatment. The mean participant response to the items on the Family subscale was 2.74 with a standard

deviation of 1.42. The average full-scale score was 13.70 with a standard deviation of 6.22. The Cronbach alpha coefficient for the present study's Family subscale was .94.

The Legal subscale of the PCQ consisted of 5 items intended to measure perceived coercion from the legal system to participate in substance abuse treatment. The mean participant response to the items on the Legal subscale was 3.41 with a standard deviation of 1.36. The average full-scale score was 17.05 with a standard deviation of 4.41. The Cronbach alpha coefficient for the present study's Legal subscale was .66.

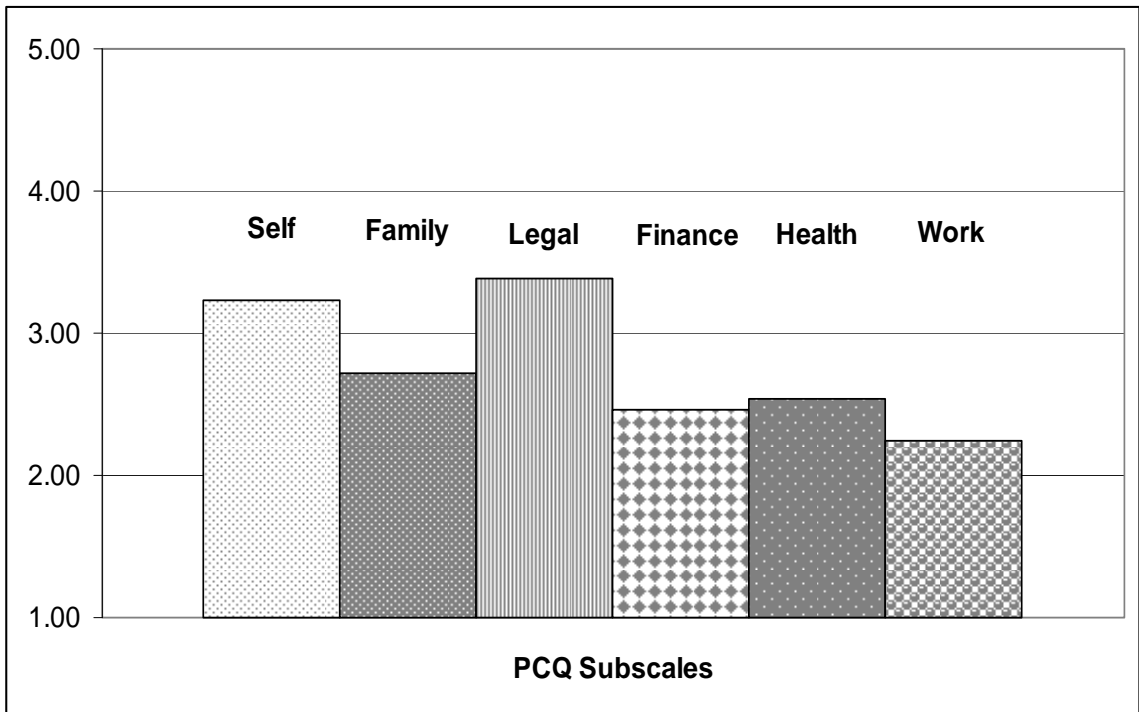


Figure 5. PCQ Subscales by Mean Item Endorsement

The Finance subscale of the PCQ consisted of 5 items intended to measure perceived coercion to participate in substance abuse treatment because of the respondent's current unfavorable financial situation. The mean participant response to the

items on the Finance subscale was 2.49 with a standard deviation of 1.35. The average full-scale score was 12.39 with a standard deviation of 5.46. The Cronbach alpha coefficient for the present study's Finance subscale was .87.

The Health subscale of the PCQ consisted of 5 items intended to measure perceived coercion to participate in substance abuse treatment because of the respondent's current or past unfavorable health condition. The mean participant response to the items on the Health subscale was 2.56 with a standard deviation of 1.41. The average full-scale score was 12.82 with a standard deviation of 5.72. The Cronbach alpha coefficient for the present study's Health subscale was .87.

The Work subscale of the PCQ consisted of 5 items intended to measure perceived coercion to participate in substance abuse treatment because of the respondent's current or past problems related to his or her employment or work setting. The mean participant response to the items on the Work subscale was 2.26 with a standard deviation of 1.33. The average full-scale score was 11.30 with a standard deviation of 5.61. The Cronbach alpha coefficient for the present study's Work subscale was .89. Based on the computed alpha coefficients, the data generated by the PCQ is considered to be reliable, although one (Legal Subscale) was in the mid-60's.

Test of Specific Hypotheses

The following section describes the findings of the nonparametric correlation procedures, as well as the Chi Square test of independence used to test the specific hypotheses described in Chapter III.

Hypothesis 1

H1: The self-reported stage status (e.g., Precontemplation, Contemplation, Action, or Maintenance), as measured by the URICA, will have a statistically significant positive relationship with the self-reported level of internalization (e.g., External Regulation, Introjected Regulation, Identified Regulation), as measured by the TEQ. Following stage assignment, which was based on participant responses to the URICA and the related scoring procedures, participants' scores on the URICA represented an ordinal-type continuum of readiness to change. However, aside from the assignment to categories that represent increasing levels, the structure and scoring procedures of the TEQ did not produce a continuous measure of internalization. Therefore, prior to data analysis the scores generated by the TEQ were first reordered and then converted to rankings to depict a graduated continuum of internalization (see Figure 6). The rationale for this procedure is described in the next paragraph.

As it stands, the overall internalization continuum, as proposed by Deci and Ryan (1985; External – Introjected – Identified), is intended to illustrate a graduated process whereby values, attitudes, and behaviors that are external, transition to take on more internalized forms. However, each subscale within the TEQ could be said to represent a stand-alone micro-continuum of internalization that is scored independently of the other subscales. Therefore, the TEQ's scale-by-scale scoring procedures render an outcome that is inconsistent with the concept of a macro-continuum of internalization.

For example, the *highest* score on the subscale designed to measure the most externalized form or level (External Regulation) would represent the *least* amount of internalization on an overall or macro-continuum of internalization. Likewise, *higher*

scores on the subscale designed to measure Introjected Regulation, which is the next most externalized or “somewhat external” form or level (Ryan and Deci, 2000, p. 72) indicates there is a greater degree of external influence and a *lesser* degree of integration with the self, which is also in contrast to the concept of a macro-continuum of internalization.

On the other hand, this is not true for the Identified Regulation subscale, as higher scores on this scale represent a greater amount of internalization versus less. Therefore, the rankings of the scores within the External and Introjected Regulation subscales of the TEQ were reordered in reverse because the highest participant score within these subscales represented the lowest degree of participant internalization.

The following example is provided to clarify the procedure used to convert the External and Introjected Regulation subscale scores to overall rankings of internalization: Assume that eight participants were found to be in the External Regulation category. After the reordering procedure, the scores of the participants were ranked (P₁, P₂, P₃, P₄, P₅, P₆, P₇, P₈), where P₁ represents the participant scoring the highest within the External Regulation category and P₈ represents the participant scoring the lowest within the External Regulation category.

Then assume that participants P₉ through P₁₆ represent the scores within the Introjected Regulation category with participant P₉ producing the highest score of those in the Introjected Regulation category and participant P₁₆ producing the lowest score among those participants in the Introjected Regulation category.

In contrast, participants P₁₇ through P₂₄ represent the scores within the Identified Regulation category with participant P₁₇ having the lowest score of those in the Identified Regulation category and participant P₂₄ having the highest score.

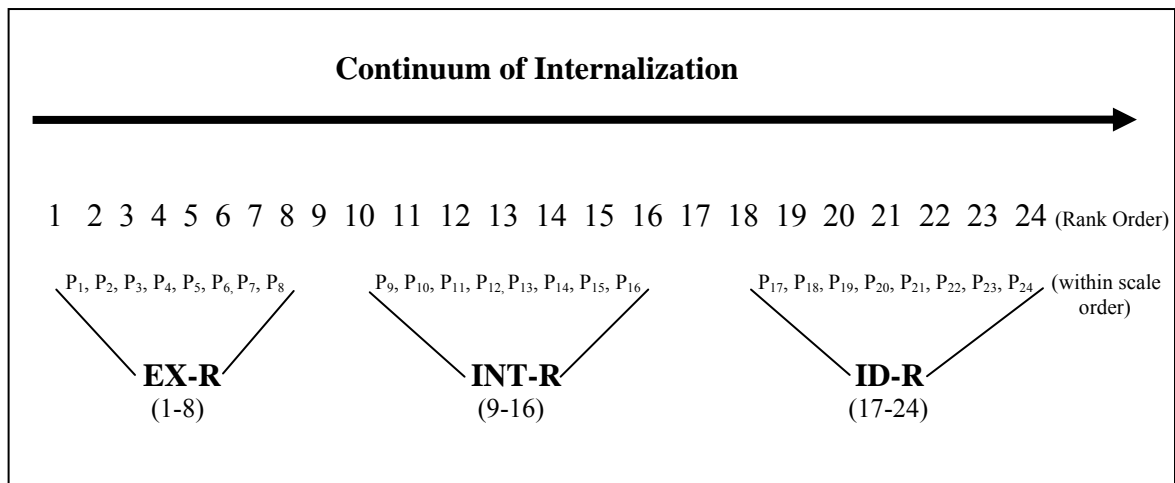


Figure 6. Conversion of Levels of Internalization to Ordinal Rankings

The relationship between the Stages-of-Change and internalization was then tested using the Kendall’s *tau* correlation procedure following the rank-order procedures described in the previous two paragraphs. Results indicate that Hypothesis 1 was supported. The Kendall’s *tau* correlation coefficient between URICA scores and TEQ scores was $r_t = 0.49$ ($p < .01$), indicating that the level of internalization has a significant relationship with stage status (see Figure 7).

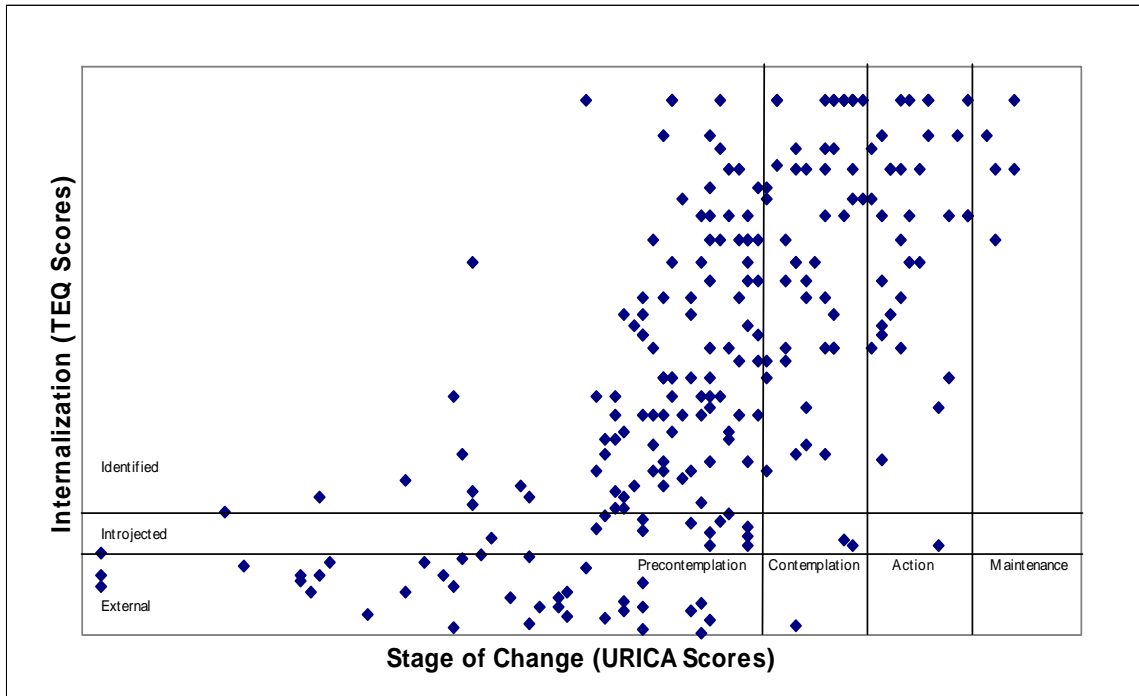


Figure 7. Scatter-plot of Stages-of-Change & Internalization

Hypothesis 2

H2: The self-reported stage status (e.g., Precontemplation, Contemplation, Action, Maintenance), as measured by the URICA, will have a statistically significant negative relationship with the self-reported status of perceived external control (PEC), as measured by the PCQ. This hypothesis was tested using the Kendall’s *tau* correlation procedure.

Results indicated that Hypothesis 2 was not supported. The Kendall’s *tau* correlation coefficient for the association between URICA scores and scores on the PCQ was $r_t = 0.35$ ($p < .01$). Contrary to the hypothesized outcome, the findings indicate there is a very modest, but statistically significant positive relationship between stage status and the perception of external control (see Figure 8).

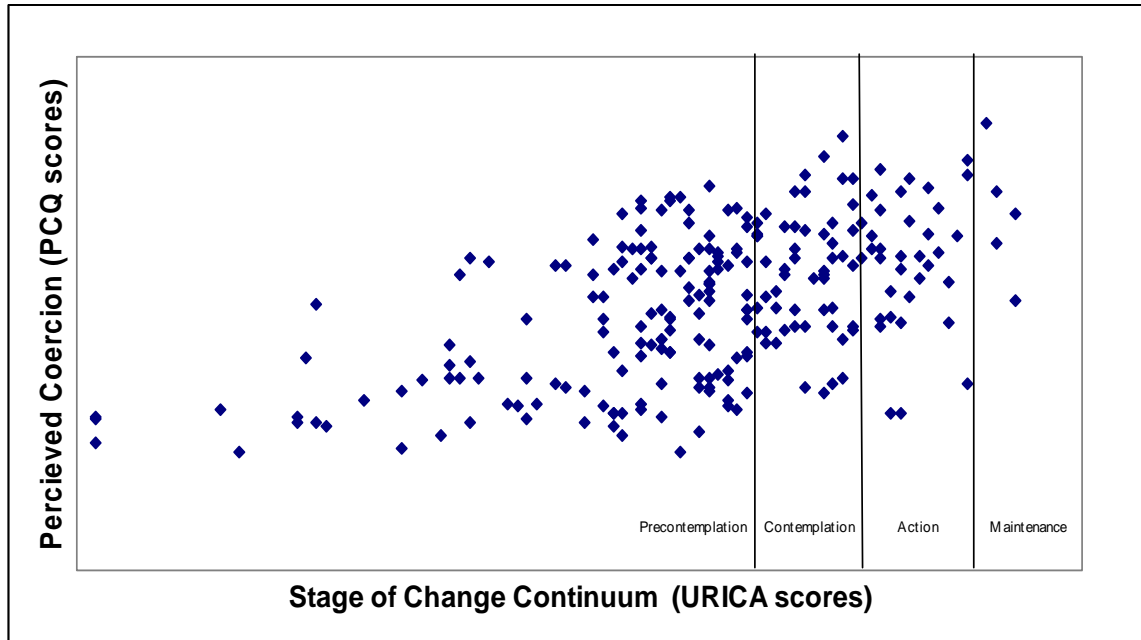


Figure 8. Scatter-plot of Stages-of-Change & Perceived Coercion

Hypothesis 3

H3: The self-reported stage status (e.g., Precontemplation, Contemplation, Action, Maintenance), as measured by the URICA, will have a statistically significant negative relationship with Sanctions. This hypothesis was tested using the Kendall's *tau* correlation procedure.

The results indicated that Hypothesis 3 was not supported. The Kendall's *tau* correlation coefficient for the relationship between URICA scores and calculations of Sanctions (e.g., the sum of the products of sanction intensity and sanction frequency) was $r_t = .10$ ($p < .05$). Thus, contrary to the hypothesized outcome, the findings indicated there is a very small, but statistically significant positive relationship between stage status and Sanctions.

Hypothesis 4

H4: The self-reported status of internalization (e.g., External Regulation, Introjected Regulation, Identified Regulation), as measured by the TEQ, will have a statistically significant negative relationship with the self-reported status of perceived external control (PEC) as measured by the PCQ. This hypothesis was tested using Kendall's *tau* rank-order correlation procedure.

The results indicated that Hypothesis 4 was not supported. The Kendall's *tau* correlation coefficient between TEQ scores and PCQ scores was $r_t = 0.30$ ($p < .01$), indicating that level of internalization has a moderate, but statistically significant positive relationship with the self-reported status of external control (see Figure 9).

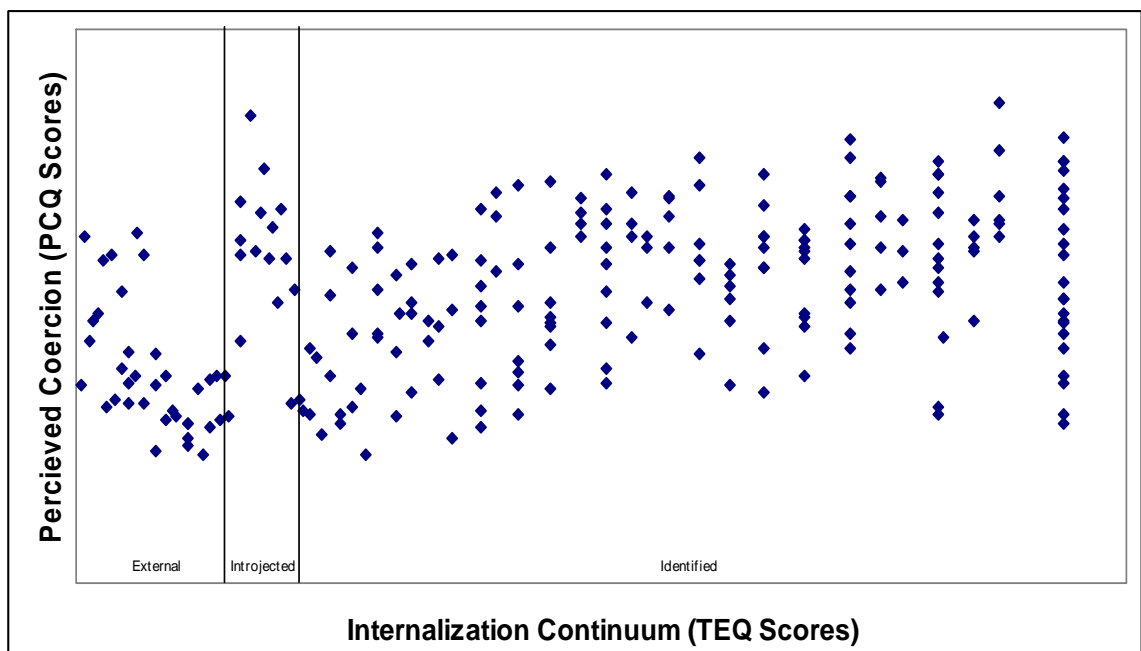


Figure 9. Scatter-plot of Internalization & Perceived Coercion

Hypothesis 5

H5: The self-reported level of internalization (e.g., External Regulation, Introjected Regulation, Identified Regulation), as measured by the TEQ, will have a statistically significant negative relationship with Sanctions. This hypothesis was tested using Kendall's *tau* rank-order correlation procedure.

The results indicated that Hypothesis 5 was not supported. Kendall's *tau* correlation coefficient between scores on the TEQ and calculations of Sanctions was $r_t = .04$, which indicated that a negligible relationship exist between the level of internalization and Sanctions.

Hypothesis 6

H6: The self-reported status of perceived external control (PEC), as measured by the PCQ, will have a statistically significant positive relationship with Sanctions. This hypothesis was tested using the Spearman *rho* rank-order correlation procedure.

The results indicate that Hypothesis 6 was not supported. The Spearman *rho* correlation coefficient for the relationship between PCQ scores and calculations of Sanctions was $r_s = .02$. Therefore, the results indicated a negligible relationship exist between the perception of external control (PEC) and Sanctions.

Hypothesis 7

H7: Among *Introjected Regulators*, as measured by the TEQ, there will be significantly more ($p < .05$) participants categorized as in either the Contemplation or Action stages, as measured by the URICA, when compared to the number of participants categorized as in either the Precontemplation or Maintenance stages. This hypothesis was tested using a 1 X 2 Chi Square test of independence (see Table 5), following the

procedure of combining frequencies in the Contemplation and Action stages and combining frequencies in the Precontemplation and Maintenance stages.

Table 5. **Contingency / Frequency Table**

Stages-of-Change			
Internalization		Contemplation + Action	Precontemplation + Maintenance
		Introjected Regulation	4 / 23.5%

The results of the Chi Square test indicate that Hypothesis 7 was not supported. A total of 17 participants were classified as Introjected Regulators. Of the 17 participants, 76.5 % (13) were categorized in the Precontemplation and Maintenance stages-of-change and 23.5% (4) were categorized in the Contemplation and Action stages. Contrary to the hypothesized outcome, more than three-quarters of the Introjected Regulators were categorized as in either Precontemplation or Maintenance. Moreover, the distribution was found to be without statistical significance, thereby indicating that the categorization of Introjected Regulators was no more than a random event.

Results of Observer Ratings

The data collected from the judges and service providers reflected their current perceptions of where each of the participants was positioned on both the Stage-of-Change (SOC) and the internalization continuums. Prior to performing statistical analyses, each participant was assigned a number reflecting his or her stage-position, which had been determined by their responses to the URICA. Numbers were assigned as follows:

Precontemplation = 1, Contemplation = 2, Action = 3, and Maintenance = 4. Following the same number/stage assignment conversion strategy described earlier, the ratings made by the judges and service providers were combined and averaged to yield a mean rating value for each participant.

Table 6. URICA Scores Versus Observer Ratings

	Precontemplation Stage	Contemplation Stage	Action Stage	Maintenance Stage
URICA Scores	150 (62.2%)	54 (22.4%)	28 (11.6%)	5 (2.1%)
Observer SOC Ratings	41 (17.2%)	100 (42.2%)	80 (33.8%)	16 (6.6%)

As previously described, based on their self-report to items on the URICA questionnaire, the majority of the participants (150 or 62.2%) were categorized in the Precontemplation stage and the remainder of the sample was categorized as follows: Contemplation = 54 (22.4%), Action 28 (11.6%), and Maintenance = 5 (2.1%). A comparison of the observer ratings reflected a different pattern from the participants' self-report (see Table 6). The observer ratings of the participants' location on the Stage-of-Change continuum were as follows (see Figure 10): Precontemplation 41 (17.2%), Contemplation 100 (42.2%), Action 80 (33.8%), and Maintenance 16 (6.6%).

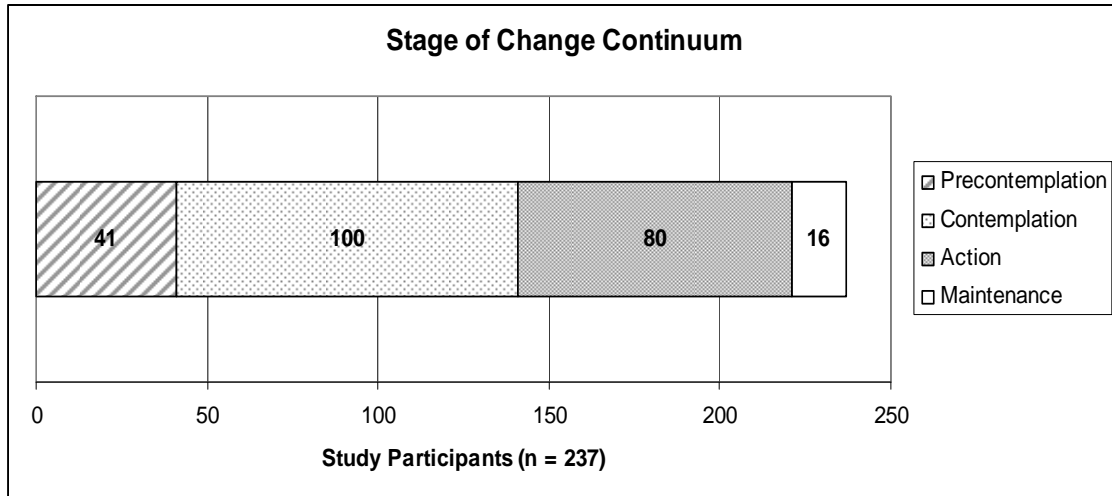


Figure 10. Observer Perceptions of Participants' Stage Position

Using the number/stage assignments (1-4) for the participants and the observer ratings, the relationship between the observer ratings and the participants' self-reported stage-position (via URICA score) was examined. The relationship was analyzed using Kendall's *tau* correlation procedure, which resulted in $r_t = 0.14$ ($p < .01$), indicating that a very small, but statistically significant association exists between participant self-report and observer ratings of Stage-of-Change (SOC).

Also, the differences between observer ratings and the participants' URICA scores were compared. It was found that the variations ranged from the observers rating the participants two stages below to three stages above their self-reported stage position. Based on the mean Stage-of-Change rating values, the observers rated the participants as being approximately one stage above their self-reported stage position, as measured by the URICA ($m = 1.07$; $sd = 1.08$).

Similar to the number/stage assignment procedure utilized for the Stages-of-Change, and also prior to statistical analyses, the participants were assigned a number based on the outcome of their responses to the TEQ (1 = External Regulation; 2 = Introjected Regulation; 3 = Identified Regulation). Likewise, the observer ratings of the participants on the internalization continuum were converted using the same number/level strategy. They were then summed and averaged to yield a mean rating value for each participant.

The relationship between the observer ratings and the participants' self-reported level of internalization, as measured by the TEQ was examined. The relationship was analyzed using Kendall's *tau* correlation procedure, which resulted in $r_t = 0.31$ ($p < .01$), suggesting that a small, but statistically significant association exists between participant self-report and observer ratings of internalization.

Based on the participants' responses to the TEQ, the External Regulation category accounted for 37 (15.4%) of the participants (see Figure 4). The Introjected Regulation category accounted for 17 (7.1%) and the Identified Regulation category accounted for the majority of the sample (183 or 75.9%).

Analogous to the results of the observers' ratings of participants on the SOC continuum, observers' perceptions of the participants' level of internalization reflected a generally contrasting pattern as compared to the participants' self-report to the TEQ (see Figure 11): External Regulation = 126 (53.2%), Introjected Regulation = 92 (38.8%), and Identified Regulation = 19 (7.9).

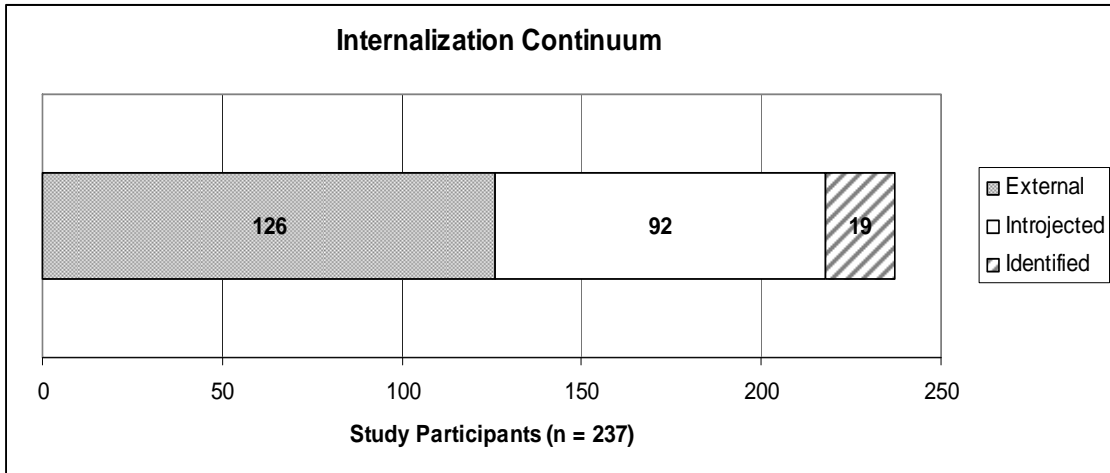


Figure 11. Observer Perceptions of Participants' Level of Internalization

Using the number/level assignments for the participants and the observers' ratings, the differences between the observers' ratings and the participants' self-reported level of internalization, as measured by the TEQ, were calculated. It was found that the variation ranged from observer ratings being identical to those of the participants' self-reported level of internalization to two levels above the participants' self-reported level of internalization. In addition, based on the mean internalization rating values, the observers tended to rate the participants nearly two levels below the participants' self-reported level of internalization ($m = 1.83$; $sd = .69$). See Table 7 for a comparison of the two distributions.

Table 7. TEQ Scores Versus Observer Ratings

	External Regulation	Introjected Regulation	Identified Regulation
TEQ Scores	37 (15.4%)	17 (7.1%)	183 (75.9%)
Observer Ratings	126 (53.2%)	92 (38.8%)	19 (7.9%)

Post Hoc Analyses

The first post hoc test involved the participants' current court program Phase assignment and their stage position, as measured by the URICA. Following an examination of Figure 2 and Figure 3, it appeared there might be a relationship between an individual's court program Phase assignment and his or her stage position on the Stage-of-Change continuum. The relationship was tested using Kendall's *tau* rank-order correlation procedure, which resulted in $r_t = .08$ ($p < .01$), indicating there is no relationship between the two variables.

The second post hoc analysis investigated the impact of removing Self subscale from the PCQ on the relationships hypothesized in Chapter III. Although the PCQ as a whole has good reliability (Cronbach's alpha = .87; Klag et al., 2006; present study = .92), divergent validity (in comparison to the Spirituality Index; Klag et al., 2006), and excellent face validity, the subscale which purported to measure coercion by one's self seemed qualitatively different from the other subscales purporting to measure coercion from external sources. Therefore, Hypothesis 2 and Hypothesis 4 were retested after removing the items from the Self subscale of the PCQ.

The Kendall's *tau* coefficient for the association between the scores on the URICA and the scores on the PCQ less the Self subscale was $r_t = .28$ ($p < .01$). The findings indicate the relationship between stage position and perceived external control is slightly weaker (.28 versus .35) without the Self subscale.

Likewise, the Kendall's *tau* coefficient for the association between the scores on the TEQ and the scores on the PCQ less the Self subscale was $r_t = .24$ ($p < .01$). The

findings indicate the relationship between the level of internalization and perceived external control is also slightly weaker (.24 versus .30) without the Self subscale.

CHAPTER VI: DISCUSSION

Introduction

To date, an understanding of the relationship between the Stages-of-Change (TTM; Prochaska & DiClemente, 1983, 1992) and the concept of graduated levels of internalization (SDT; Deci & Ryan, 1985, 2002) in the context of psychological treatment of clinical conditions has remained unexplored. Although both theoretical models have been the focus of a vast amount of research, significant associations between them have yet to be established within the body of related literature. Therefore, the present study sought to provide the initial investigation of the relationship between the two well-established continuums, as they relate to the treatment of substance-use disorders. Although the primary hypothesis was supported, findings derived from the statistical analyses indicated that several related predictions were not supported. The section that follows will discuss the general outcomes of the analyses presented in the preceding chapter. Subsequent sections will address the results in terms of specific hypotheses. The subsequent sections will focus on the findings in relation to the Stages-of-Change (SOC) and internalization, as well as difficulties associated with measuring internalization. The final sections include implications for treatment providers, the limitations of the study, and directions for future research.

General Findings

The sample consisted of 237 volunteers who were court-mandated to participate in substance abuse treatment. Study participants provided demographic information and responded to the University of Rhode Island Change Assessment, the Treatment Entry Questionnaire, and the Perceived Coercion Questionnaire. The majority of the participants were Caucasian, male, and preferred alcohol and/or combinations of drugs as their drug(s)-of-choice. In terms of court-program Phase, the sample was somewhat skewed in the direction of the earlier Phases (I-III), but in general provided a relatively even distribution of participants across the court-program categories.

The self-report instruments used in the present study measured the participants' perception of coercion and their categorical location on two theoretical continuums (Stage-of-Change; Prochaska & DiClemente, 1983, 1992; and internalization; Deci & Ryan, 1985). The present study's analyses of the URICA indicated that the range of alpha coefficients for the subscales (.82 to .86) closely mirrored those reported by the original researchers (.79 to .84; McConaughy et al., 1989). As well, analyses of the PCQ indicated that the overall alpha and the range of alpha coefficients for the PCQ subscales (overall = .92; subscales = .66 to .94) were similar to those reported by the original researchers (overall = .87; subscales = .66 to .87; Klag et al., 2006). However, the analyses indicated that the range of alpha coefficients for the TEQ subscales (.81 to .84) were slightly lower than those reported by the original researchers (.84 to .89; Wild et al., 2006). In sum, the alpha coefficients calculated for all three measures were adequate, indicating the data for the current study is reliable.

Regarding the Stage-of-Change continuum, as depicted by URICA scores (Figure 3), the Precontemplation stage represented the majority of the overall sample (150 of 237; 63.3%); a distribution that appeared to closely mirror the first three court Phases (169 of 237; 71.3%). The latter three stages (Contemplation, Action, and Maintenance; 36.7%) reflected nearly a third of the overall Stage-of-Change distribution, which was similar to the latter two court Phases (28.7%). However, the results of the post-hoc analysis indicated there is a negligible relationship between these two distributions. Therefore, as one advances in the court program, he or she may or may not also traverse across the Stage-of-Change continuum. Thus, it is possible the individual may be in a more advanced Phase of the court program, yet may not recognize that a change in substance-use behavior is needed and/or are unwilling to change such behaviors.

In addition, the Stage-of-Change continuum, as depicted by observers' ratings (Figure 10), also reflected marked differences from the participants' self-report (URICA scores; Figure 3). According to the raters, which at a minimum consisted of the court-program judge and a treatment provider, and in most cases one or more others on the court-program team (e.g., coordinator, case manager), the majority of the participants (n=180, 78.3%) were considered to be in either the Contemplation stage (n=100, 42.2%) or the Action stage (n=80, 33.8%). In contrast, the SOC continuum, as measured by the URICA, categorized the majority of the sample (n=150, 63.3%) as in the Precontemplation stage. Based on the mean values calculated for the observers' ratings and the participants' URICA scores, there was a tendency for the raters to estimate the participants to be approximately one stage further along in the change process than had been measured by the URICA. In short, the observers perceived the majority of the

participants were either thinking about change (Contemplation) or were implementing some form of plan to change their drug or alcohol use behaviors (Action). In contrast, the majority of the participants reported that they either do not see their alcohol or drug use as a problem and/or are not considering change at the present time (Precontemplation). These results may suggest that the observers lack adequate familiarity with the concepts related to the Stages-of-Change and/or the associated cognitive and behavioral markers that are reflective of the different stages. Or, perhaps they were doing just a little of what might be called “wishful thinking.” It is hardly surprising that those who deliver services might be motivated to see progress, even when it is not present. The findings also raise the possibility that participants may present themselves differently when in the presence of court-program team members as contrasted with when they are not in their presence. For example, participants may attempt to manage the team-members’ impressions by demonstrating or verbalizing more advanced change-related cognitions and behaviors when they are at court or during treatment sessions. Such behavioral differences on the part of the participants could be the result of social desirability or perceived coercion, which are viable explanations that are discussed later in this chapter.

Regarding the continuum of internalization, the distribution of TEQ scores (Figure 4) was skewed in the direction wherein the largest portion of the sample (77.2%) represented the *most* internalized category (Identified) of the three being measured. This outcome was markedly divergent from what had been predicted, especially given the dispersal of the sample across the court-program Phases (Figure 2), as well as the distribution of the participants across the Stage-of-Change continuum (Figure 3). Based on the present study’s primary hypothesis, it was expected that the SOC and the

internalization distributions would closely mirror each other; however, a variation occurred. The categorical distribution of the URICA and TEQ scores among the current sample appeared to contrast with each other (Figure 3 vs. Figure 4). Nevertheless, the nonparametric correlation analyses indicated that a significant positive relationship exists between an individual's location on the Stage-of-Change continuum and level of internalization ($r_t = 0.49$; $p < .01$).

In addition, and similar to the dissimilarities between observers' ratings and the self-report of stage-position, the internalization continuum, as measured by observers' ratings, was also distinctly different from the participants' self-report of level of internalization (TEQ scores). The results appeared to reflect opposing viewpoints, as observers' ratings categorized the majority of the participants as External Regulators ($n=126$, 53.2%), while the participants' responses to the TEQ categorized the majority as Identified Regulators ($n=183$, 77.2%). The observers' ratings categorized another large portion of the sample ($n=92$, 38.8%) as Introjected Regulators, while participants' responses to the TEQ categorized a relatively small portion of the sample ($n=17$, 7.2%) as Introjected Regulators. Moreover, based on the mean values calculated for the observers' ratings and the participants' TEQ scores, there was a tendency for the raters to estimate the participants to be internalized nearly two levels lower than the level measured by the TEQ.

In sum, the observers perceived the majority of the participants as External Regulators, that had internalized the substance-abuse treatment values, attitudes, and behaviors only to the degree that court-program contingencies were in place (e.g., sanctions and incentives) or as Introjected Regulators, that had internalized said values,

attitudes, and behaviors in order to minimize their negative affective experiences (e.g., shame, guilt, etc.). In contrast, the participants' self-report to the TEQ suggested that the majority of the sample are Identified Regulators that had internalized the substance-abuse treatment values, attitudes, and behaviors because they are becoming congruent with other core values and their sense of self. The results suggest that the raters may not have had an adequate understanding of the concepts associated with the three levels of internalization or that the participants may have responded to the TEQ items in such a way as to inflate their internalization scores as measured by the TEQ.

A common problem to collecting self-report data and one possible explanation for the aforementioned differences in distributions could be social desirability. For example, participants may have endorsed items on the TEQ in such way as to present themselves in a more socially favorable light to the researcher and/or their court-program team (judge, coordinator, treatment provider, case manager), even though they were informed that the data collected would remain anonymous. On the other hand, if social desirability played a role, it is more likely that it would have influenced the entire data set (e.g., all three questionnaires, demographics) versus a subset of the data (the TEQ only). For example, the distribution of scores presented in Table 6 demonstrated a pattern of participant responses to the URICA that could be considered as *not* socially desirable, as their responses placed the majority of them in the Precontemplation stage (which indicates no perceived need or desire for change), rather than the more socially desirable category of Action or Maintenance stages (which indicates there is activity toward change).

However, a form of social desirability may have played a role on the part of the observers. Tables 6 and 7 depict marked differences between the participants' self report

and the observers' ratings, which may be the result of observers rating the participants from a self-serving or desirable perspective. Based on the two tables, the observers perceive the participants to be less internalized, but more advanced along the Stage-of-Change continuum. In both cases, if the ratings of the participants were completely accurate, the results would imply that participants "need" the extrinsic motivation provided by the court program to change their substance-use behaviors, which was suggested by the observers' SOC ratings. However, based on the observers' ratings of the participants' level of internalization, the participants are not likely to fully integrate the changes into their lives. From this standpoint the raters, who represent the court program team and are external to the participants, could be perceived by others or themselves to be "necessary" for participant change.

Specific Hypotheses

H1. As previously mentioned, the primary hypothesis regarding a relationship between the Stage-of-Change continuum and the internalization continuum was supported. The nonparametric correlation analysis indicated a significant relationship ($r_t = .49, p = .01$) exists between an individual's location on the Stage-of-Change continuum and his or her level of internalization. Therefore, it can be inferred that as a person changes from one behavior set to another (e.g., from use of alcohol and/or drugs to abstinence from alcohol and/or drugs) the transition may include at some level, the internalization of related psychological material (values, attitudes, beliefs, and behaviors) that move from the outside to the inside of the person (Scott, 1971). However, the relationship is at best a moderate one, which also implies that varying degrees of internalization may be present at varying stages in the change process.

H2 and H4. It was hypothesized that perceived coercion, as measured by the PCQ, would be higher among participants in the earliest Stage-of-Change, as well as in the lowest levels of internalization. It was expected that as one advanced to the latter stages and the more intrinsic levels of internalization, he or she would perceive decreasing levels coercion. In both cases the predictions were not supported, as perceived coercion had a small, but statistically significant positive relationship with the Stage-of-Change continuum ($r_t = .35, p < .01$; see Figure 7) and a very similar, but also statistically significant relationship ($r_t = .30, p < .01$; see Figure 8) with the internalization continuum. Interestingly, the correlation coefficients are remarkably similar, which suggest that the perception of coercion may share a similar relationship with the negotiation of either continuum. Nevertheless, the perception of coercion was present and may play a role in an individual's stage-movement, as well as in his or her increasing levels of internalization.

H3, H5, and H6. Similar to H2 and H4, the third and fifth hypotheses sought to test the relationship between the two continuums and actual coercion (via imposed sanctions). Again, it was expected that those categorized in the earlier Stages-of-Change and in lower levels of internalization would report more sanctions and visa versa. Again, the predictions were not supported. Sanctions had a very small, but statistically significant relationship with the Stage-of-Change continuum ($r_t = .10, p < .05$) and a negligible relationship ($r_t = .04$) with the internalization continuum. Also, the sixth hypothesis tested the relationship between perceived coercion and sanctions; the relationship was not significant.

As mentioned previously, the findings may have been subject to the common problem of social desirability. In this case, participants may have chosen to avoid reporting the negative consequences they were forced to experience as a result of their behavior (e.g., noncompliance, use of alcohol or drugs, etc.). Also, the data for sanctions relied on the participants' ability to recall the occurrence of sanctions, as well as frequency. Simply stated, the participants' capacity for recall may not have been the most reliable of data sources for numerous reasons (e.g., cognitive impairment that accompanies early periods of abstinence, intentional mental blocking, etc.). Nevertheless, these findings suggest that, for the most part, actual coercion via sanctions may occur at any stage or level along the two continuums.

H7. This final prediction was intended to explore the possibility that a "transition" point may exist on the two continuums of internalization and the Stages-of-Change. The goal was to examine the prospect that participants who were categorized as in either the Contemplation or Action stage on the Stages-of-Change continuum would also be categorized in the Introjected Regulation level on the internalization continuum. The hypothesis was not supported. The sample size for this particular analysis was limited to a mere 17 out of 237 (7.1%) of the participants being categorized as Introjected Regulators. To the contrary, of those who were categorized as Introjected Regulators, more than three-quarters were also categorized as in either the Precontemplation or Maintenance stage.

Findings Relative to the Stages-of-Change

Progression through the Stages-of-Change is often cyclical versus linear (Connors, et al., 2001; DiClemente, 2003; Prochaska & DiClemente, 1985, 1992;

Prochaska et al., 1992). This may have contributed to the limited correlation coefficient between the Stages-of-Change and internalization. For example, a person may move through the first three stages (from Precontemplation to Contemplation to Action), and for a period regress back to a previous stage (e.g., Contemplation or Precontemplation). The person may again press forward to return to his or her previously accomplished stage-position, and may even move beyond to a more advanced Stage-of-Change, as they naturally reengage in the Processes of Change (Table 2; POC, DiClemente, 2003) and stage-related tasks (Table 1; DiClemente, 2003).

Consider as an example a person who is now in the Action stage of terminating their substance-abuse behavior. Following a few weeks of attending substance-abuse treatment sessions and AA (Alcoholics Anonymous) meetings, the person may be able to put together more than thirty days of continued abstinence from alcohol. Meanwhile, their job begins demanding more and more of their time because of an increased workload. As a result, their “treatment session and AA meeting behavior” decreases to the degree they are no longer attending at all. At this point, they may return to Precontemplation, because they have been able to maintain abstinence for an extended period of time and consider that treatment and AA meetings are no longer needed. They may again advance to the Contemplation stage, following a two-day binge on alcohol when they review the benefits associated with attending treatment sessions and AA meetings and the costs associated with not attending. They may return to the previously accomplished stage of Action regarding abstinence from alcohol, yet this time they learn new or plan to use specific skills (e.g., prioritization, time management, and relapse prevention strategies) to help prevent a future relapse to drinking alcohol. During another

period they may temporarily slip back to Contemplation and then return again to Action. Ultimately, they sustain the behavior change of abstinence from alcohol for over six months, which is a cardinal defining feature of the Maintenance stage.

Based on the logic that some degree of recollection of previous cognitive and behavioral experiences regarding the change of a particular behavior can be present, it could be argued that the characteristics associated with multiple stages (e.g., cognitive and behavioral processes, tasks and goals) may coexist or can be in transition simultaneously. This may occur regardless of stage position. Using the example above, the individual, though in the Precontemplation stage, may still highly value treatment sessions and AA meetings (Identified), but presently does not think they are needed, because the problem behavior currently appears to be under control.

Therefore, it stands to reason that the TEQ could have measured values and attitudes related to substance-abuse treatment that had reached more advanced levels of internalization (e.g., Identified). Yet, because of the cycling nature of stage movement identified by previous research (Connors, et al., 2001; DiClemente, 2003; Prochaska & DiClemente, 1985, 1992; Prochaska et al., 1992), participants were classified by the URICA as being in a lower stage, which could thereby have limited the size of the correlation hypothesized and examined in the present study. Likewise, the cycling nature of stage-movement could have also played a role in why observers tended to estimate participants as one stage beyond the participants' self-report. In short, the participants may have regressed to an earlier stage and the observers (e.g., the judge, coordinator, treatment provider, case manager) were unaware such a shift had taken place. Especially, since the ratings were likely dependent on nuances in behavior (verbal and nonverbal),

whereby even small changes may not be exhibited or noticeable in such a controlling environment (e.g., contingencies, perceptions of coercion, etc.).

Findings Relative to Internalization

The results of the current study were mixed in terms of how they relate to Deci and Ryan's (1985) conceptualized continuum of internalization. For example, it was hypothesized that external control would be negatively correlated with the internalization continuum. This prediction was grounded in the perspective that as one progressively internalizes, the regulation of the self will transition from being influenced by external sources (e.g., contingencies) to being influenced by internal sources (e.g., values). Briefly stated, as internalization increases, external influence should decrease. However, the findings indicated that the expected negative correlation described above was absent, and to the contrary, there was a statistically significant positive relationship. Therefore, external pressure to regulate behavior may not play a role that is limited solely to the most extrinsic forms of internalization (External and Introjected). Rather, external pressure to regulate behavior may also play a role in helping develop or maintain the more intrinsic forms of internalization (Identified and Integrated).

An example could be found in the context of compulsory abstinence and substance disorder treatment, wherein an individual has been court-mandated to adhere to program requirements. The individual may engage or comply with program expectations initially because of the compelling contingencies that are in place (e.g., public admonishment, brief incarceration, etc.) for noncompliance, which is a principal feature of internalization at the External Regulation level (Deci & Ryan, 1985). As time in the program passes, the individual may eventually come to value a few or several aspects

associated with, or derived from abstinence and/or treatment-related behavior, which is a fundamental aspect of Identified Regulation (Ryan & Deci, 2000). However, because he or she has begun to adopt or incorporate some of the abstinence and/or treatment-related values, attitudes, and behaviors; the role of the contingencies has no less of an effect on influencing the very same behaviors. In other words, a court-mandated individual could be engaged in abstinence and treatment-related behaviors, not only because the behaviors are realized as consistent with other core defining values he or she already holds as part and parcel of their sense of self (Integrated Regulation). Rather, they could also be engaged in abstinence and treatment-related behaviors because doing so eliminates the risk for being sanctioned (External Regulation) or reduces the intensity and/or frequency of negative emotions (e.g., sadness, shame, guilt, etc.) The latter of which is a primary characteristic of internalization at the Introjected Regulation level (Deci & Ryan, 1985). In this case, extrinsic and intrinsic forms of regulation exist concurrently.

Problems Measuring Internalization

Although a statistically significant relationship was found between the Stages-of-Change and internalization ($r_t = .49, p < .01$), a closer look at the TEQ, relative to the construct of an internalization continuum, and the results of the related hypotheses suggest that problems exist in measuring internalization. In short, either the TEQ instrument used in the present study may have fallen short in basic or fundamental ways or the construct of internalization is far more complex than previously assumed or both. The following paragraphs will first address the issues associated with the TEQ and then discuss internalization as a construct that is difficult to measure.

Problems associated with using the TEQ to measure internalization may best be clarified by examining the differences between the scoring methods used by the URICA and the TEQ. For example, the scoring procedures employed when using the URICA require that the mean value representing the Precontemplation subscale is subtracted from of the sum of the mean values of the subsequent subscales (Contemplation, Action, Maintenance). This procedure is used by the original authors (McConaughy et al., 1983) because the Precontemplation subscale is a continuous measure of *no* recognition of the need for and/or intent to change, whereas the other three subscales are continuous measures of acknowledgement and/or movement toward change. Because of these procedures the final outcome of a URICA score is one that has accounted for variations and/or inconsistencies in response styles, such as those that produce a high mean value for the Precontemplation subscale *and* a high mean value for one or more of the other divergent subscales (e.g., Action or Maintenance).

Similar to the Precontemplation subscale of the URICA, the first two TEQ subscales (External Regulation and Introjected Regulation) are designed to measure constructs that are in contrast to the third subscale (Identified Regulation). For example, the External Regulation and Introjected Regulation subscales are continuous measures representing either a complete or a partial extrinsic form of the internalization of values, attitudes, and behaviors, whereas the Identified Regulation subscale is a continuous measure of an intrinsic form of the internalization of values, attitudes, and behaviors. However, unlike the procedures used for the URICA, the TEQ's scoring procedures do not account for high or similar mean values across multiple scales. Rather, the TEQ scoring procedures designate the scale with the highest mean value as representative of

an individual's level of internalization, regardless of how similar or dissimilar this highest mean value is from the mean values generated by the individual on the other subscales.

In addition, although Wild et al. (2006) reported adequate internal consistency values for the subscales (.84 - .89), their statistical findings regarding convergent and divergent validity were generally weak. The Social Pressure Index (Polcin & Weisner, 1999) and the MacArthur Perceived Coercion Scale (Gardner et al., 1993) were used to establish convergent validity for the extrinsic subscales (External and Introjected) and divergent validity for the intrinsic subscale (Identified). However, none of the correlation coefficients reported by Wild and colleagues were greater than .39 ($p < .01$), which though statistically significant, are weak relationships from both a theoretical and practical standpoint.

Generally speaking, the TEQ has less than ideal psychometric properties, but may be helpful in understanding where a person is in terms of their location on the internalization continuum; specifically in those cases where the subscale mean values do not compete and the mean value of one subscale is markedly higher than the other two. However, as it currently stands, the scoring procedures for the TEQ appear to limit the instrument's capacity to consistently differentiate among the three levels of internalization it was designed to measure. Moreover, the TEQ is in need of further research regarding its use as a valid measure of Deci and Ryan's (1985) continuum of internalization.

Despite the fact that the literature is rich with various perspectives, internalization as a construct has not enjoyed scientific consensus from either a theoretical standpoint or

in terms of a universal operational definition. Those who have addressed internalization (e.g., Deci & Ryan, 1985; Freud, 1986; Lawrence & Valsiner, 1993; Meissner, 1981; Stolte, 1978; Piaget, 1954; Vygotsky, 1978) have often offered complex explanations of the process which typically cannot be assessed using instruments or procedures currently available. In thinking about measurement issues, one question would be *what* aspect or aspects of internalization or the process of internalization should be measured that would clearly establish its presence or absence within an individual? Obviously, the answer to this question depends on what system is used as a framework.

From a psychoanalytic standpoint *introjection* and *identification*, as presented by Freud (1986), Meissner (1981), and Lazowick (1955) would need to be measured. From a developmental standpoint, *assimilation* and *accommodation* (Piaget, 1954; Vygotsky, 1978) would need to be measured. Also, according to Lawrence and Valsiner (1993), measurement would need to include determining the occurrence of *Transmission* and *Transformation*. From social-psychological standpoint Stolte (1978) would likely consider it important to distinguish *internalization* from *interiorization* by examining the social-contextual setting, the relationship the individual has with the key components of the setting, and the individual's response in the absence of externally derived consequences. Finally, Deci and Ryan's (1985) perspective of internalization would suggest that measurement include all four levels on their proposed continuum (*external*, *introjected*, *identified*, and *integrated*). In addition, assessment should also include the presence or absence of autonomy, as well as whether or not the environment was conducive to meeting the individual's psychological needs of competence and relatedness.

A second question would concern *how* to measure, evaluate, or assess the wide range of concepts and constructs presented in the previous paragraph. As noted above, there is no consensus about how to conceptualize this construct, and hence it is extremely difficult to define operationally. Certainly, there are a number of methods or strategies available (e.g., the TEQ), such as self-report instruments (e.g., questionnaires), projective instruments (e.g., sentence stems), qualitative measures (e.g., expressive writing), and direct observation that may be adapted to generate useful information. However, based on the complexity of the construct itself and the results of the present study, it appears that the measurement of internalization will remain elusive.

Finally, what is being internalized is yet another matter in need of clarification. For example, Deci and Ryan suggest psychological material in the form of attitudes, beliefs, values, and behaviors are internalized, which brings into question how these components may be clearly defined in such a way as to be quantified. Also, are these components internalized in part or in whole? Are some components (e.g., behaviors, attitudes) internalized at the more extrinsic levels (e.g., external, introjected), while other components (e.g., beliefs, values) are internalized at the more intrinsic levels (e.g., identified, integrated)? In the context of abstinence and substance disorder treatment, regardless of whether they are compulsory or voluntary, there can be marked differences in what is being internalized (e.g., attitudes, beliefs) and at what levels (e.g., introjected, identified). Abstinence alone is a behavior, yet it can be influenced by attitudes, beliefs, and values, as well as other behaviors. Therefore, for measurement purposes it may be important to first clearly define what specific aspect of psychological material (e.g., value, attitude, belief, or behavior) is being internalized.

Implications for Treatment Providers

In the first chapter of this manuscript, findings derived from a national survey conducted in 2003 (SAMHSA, 2004) were presented. The results clearly described the long-term outcomes (e.g., sustained abstinence) of substance-abuse or addiction treatment as being extremely limited. Therefore, there is a great need to understand the underlying or co-occurring processes that may contribute to enhancing the effects of substance-abuse interventions. Research may accomplish this by illuminating hidden relationships between or among variables that may improve the quality, application, or comprehensiveness of interventions utilized by the providers who treat substance-use disorders. Based on the findings from the present investigation, internalization may be considered as one such variable. The goal of the current investigation was to seek a more thorough understanding of the relationship between the theoretical stages one goes through when making such lifestyle changes and the internalization of related values, attitudes, and behaviors. Despite the threats to internal and external validity noted thus far in this chapter (e.g., social desirability, perceived coercion, self-report, poor recall, measurement), the findings indicate that there is a moderate, but significant relationship between internalization and progression through the Stages-of-Change. As practitioners think about stage movement, the process of internalization must also be considered. Thus, internalization should be considered by those intending to treat persons afflicted with substance-use disorders. The next three paragraphs describe specific areas in which the consideration of internalization, with regard to the Stages-of-Change, might be made.

Case conceptualization. Based on the premise that effective psychological intervention may begin with a thorough understanding of the individual in need of

treatment, both static and dynamic features should be assessed. Among the unique aspects that should be considered by a provider is the dynamic interaction between where that person is on the continuum of internalization, as well as the Stage-of-Change continuum. In the context of other treatment-related characteristics (e.g., chronicity of substance-use disorder, reasons for seeking treatment, personal goals for treatment, previous treatment efforts, etc.), understanding whether or not the individual recognizes and desires change is of principal importance. Also, an understanding of whether or not, or to what degree the individual has integrated the related values, attitudes, and behaviors is of equal import. For example, an individual seeking treatment may be court-mandated, but reports he or she has come to recognize change is needed and has begun increasing some behaviors (e.g., AA attendance), while decreasing others (e.g., use of alcohol). It would appear that this individual is probably in the Action stage on the Stage-of-Change continuum. However, when evaluated further (possibly using a revised version of the TEQ) to determine this client's status regarding degree of internalization, it may become evident that the reported changes in behavior are internalized only at the External Regulation level, versus the other more intrinsic levels. Using only the Stages-of-Change information, it would have been assumed that this client was in the Action stage and had already "bought-into" the values and attitudes associated with the adjustments made thus far in this person's behaviors. In this case the contrary is made evident by the client's minimal level of internalization, as well the alterations in behavior are likely to return to their previous status if or when the compelling contingencies are discontinued or removed. Given this scenario, improved insight into the dynamics of this individual's change processes was achieved and would likely both guide and benefit clinical decision

making at multiple levels. Similar examples of clients could easily be developed using any combination of the four Stages-of-Change with the four levels of internalization. From this perspective, it is important for a substance-abuse treatment provider to include an assessment of the client's Stage-of-Change and his or her form of internalization, as taking into account the interaction between the two theoretical continuums may enhance the provider's conceptualization of the client's processes regarding change and his or her treatment needs.

Intervention selection. The philosophy of utilizing targeted interventions to facilitate change is a common approach in the substance disorder treatment field (Connors et al., 2001). Based on the reasoning presented in the previous paragraph regarding improved case conceptualization using the two continuums, the appropriate selection of interventions may be done from a far more informed standpoint. For example, if the court-mandated individual mentioned above is considered to be in the Action stage, but is also an *External Regulator*, he or she may benefit from therapeutic activities that are designed to further facilitate his integration or adoption of the values associated with abstinence and/or AA attendance. One such intervention is known as "consciousness raising" (Connors, et al., 2001, p. 106), which may be accomplished through a series of therapeutic strategies (e.g., clarification of values, examination of values vs. behavior, etc.). In this case, the extrinsic form of internalization may be considered a liability or hindrance to long-term change. Therefore, the appropriate clinical response requires therapeutic interventions or strategies, such as consciousness raising, that may serve to minimize or eliminate the temporary treatment effects that may

likely occur following a client's externalized control (e.g., return to substance abuse when contingencies are removed).

Another well-researched intervention is known as Motivation Interviewing (MI; Miller & Rollnick, 2002), which can be used to meet all of the psychological needs proposed by Deci and Ryan (1985) and especially improve the client's sense of autonomy (Markland, Ryan, Tobin, & Rollnick, 2005); a psychological need that has been limited by the court-program environment. MI has been considered an approach that is supportive of all three primary needs; "autonomy through nondirective inquiry and reflection, competence through provision of information, and relatedness through a relationship characterized by unconditional positive regard" (Ryan & Deci, 2008, p. 187).

On the other hand, if an individual's level of internalization should be more intrinsic in nature (e.g., Identified), it may be considered an asset or a resource to be drawn upon when choosing targeted interventions. As well, should it be found that the client's internality is at multiple levels (e.g., Introjected and Identified), the clinician may focus the therapy's attention on bolstering the more intrinsic forms (e.g., Identified) while addressing the origins and negative affects (e.g., shame, guilt, sadness) of the more extrinsic forms (e.g., Introjected). In sum, by considering the individual's level of internalization in relationship to his or her Stage-of-Change, a treatment provider's selection of interventions is thereby augmented for improved effectiveness and possibly longer-lasting treatment effects.

Evaluation of progress and outcome. The effects of clinical intervention are often checked at regular intervals throughout the course of treatment, prior to termination, and following treatment on a periodic basis when possible. Where substance-use disorders are

concerned, there are number of areas that can assist the clinician in gauging the efficacy of treatment. Among these typically included are: Length of abstinence, improved social functioning (e.g., gainful employment, meeting of familial responsibility, etc.), progress on the treatment plan, and progress on treatment goals, as established by the client. Assessing the relationship between the two continuums (SOC and internalization) at different points using the URICA and the TEQ or some other measure of Deci and Ryan's concept of internalization would allow the clinician to evaluate progress and potential durability of the overall intervention more comprehensively. It is important to understand where the client is in terms of stage-position; however, the current stage-position of the client may be subject to the cycling nature established by previous researchers (Connors, et al., 2001; DiClemente, 2003; Prochaska & DiClemente, 1985, 1992; Prochaska et al., 1992), through which the client would revisit previously accomplished stages. Therefore, and regardless of where he or she is in the course of treatment, the evaluation of stage-position could benefit substantially by being considered in the context of the levels or forms of internalization at work within that individual. In using the example of the court-mandated client who, through self-report is an *External Regulator* in the Action stage, it is apparent that enduring change where substance abuse is concerned, has a low probability. Although this client is demonstrating behaviorally by implementing a plan of action (e.g., sustaining abstinence, attending AA meetings), this person is not likely to remain in Action or move to the Maintenance stage without the values, attitudes, and behaviors related to the new lifestyle becoming more intrinsic and less extrinsic. Depending on where the client is in the process of treatment (e.g., beginning, middle, end) a clinician would interpret the stage-position / internalization-

level interaction information differently. Then, with the goal of improving the longevity of the intervention as a whole, the clinician can make appropriate adjustments to the client's treatment plan or protocol to facilitate the integration of related psychological material (e.g., values, attitudes, beliefs associated with the abstinent lifestyle). Consider the previous example of the client who is court-mandated and in the Action stage, but is also at the External Regulation level of internalization. If this person were approaching the end of their treatment protocol versus the beginning, the clinician may choose among several options. One such alternative would be a more intensive focus on the clarification of the client's values. Another would be the assessment of and challenge to cognitive distortions and core beliefs that may threaten long-term abstinence. Other options could include increasing the number of sessions and/or extending the duration of the treatment protocol. The outcome of such intervention modifications may serve to facilitate stage-movement and/or stage-stability, and ultimately the sustained alteration of the problem behavior of substance misuse.

Study Limitations

The most significant limitation of the present study is the construct of internalization itself. As previously discussed, it is a complex and complicated construct that is difficult to clearly define theoretically and operationally. In addition, there were a number of limitations to the present study. Among them were: The generalizability of the findings to other populations, issues with measurement, the presence of perceived coercion, program lengths, and rater's limited knowledge of the constructs. The following section will discuss each of the limitations separately.

Generalizability. The sample was comprised predominantly of participants who were of the male gender (72.3%), which limits the degree to which the findings may be applied to females. The majority of the sample was also Caucasian (80.4%), which limits the degree to which the findings may be applied to members of other ethnic groups. Finally, the entire sample was comprised of individuals who were court-mandated to participate in substance-abuse treatment. Therefore, the findings are limited in their application to individuals opting for treatment of their own accord.

Measurement. There were several shortcomings in the area of measurement. The first of notable mention was the use of self-report instruments combined with the absence of a measure of social desirability. Although all three questionnaires (URICA, TEQ, PCQ) produced reliable results, their validity may have been compromised, to a greater or lesser degree, by response styles that are inherent to self-report instruments. From this standpoint, the inclusion of a social desirability measure would have quantified the presence or absence of this confounding variable. Moreover, the scoring procedure may have limited the accuracy, reliability, and the ultimate utility of the TEQ. As mentioned previously, the TEQ is unable to consistently distinguish the dominant or primary form of internalization among the different extrinsic and intrinsic forms of internalization. Therefore, the TEQ was also limited in its capacity to accurately depict Deci and Ryan's (1985) continuum of internalization. In addition, convergent and discriminate validity was at best marginally established by the original research, indicating the instrument is in need of further validation studies. As a final shortcoming, the most advanced form of internalization proposed by the authors (Integrated) could not be measured by the TEQ.

Perception of coercion. Although the study design, informed consent, and data collection procedures were arranged and implemented in order to minimize the participants' perceptions of coercion, the complete elimination of said perceptions were unavoidable. As noted earlier in this chapter, participant perceptions of a potential negative consequence for responding truthfully to the questionnaires may have influenced the entire data set, which may have included the instrument specifically designed to measure perceived coercion (PCQ).

Varying lengths of programs. The sample was collected from four programs. Two programs were structured to include a minimum of 12 months of substance-abuse treatment while the other two were designed to endure for a minimum length of 24 months. According to Prochaska and DiClemente (1983, 1992), the timeline for transition from one stage to the next is approximately three to six months. Based on these authors' assertions, the samples drawn from the two 12-month programs may have represented fewer stages (e.g., Precontemplation and Contemplation), while the samples drawn from the 24-month programs may have represented more stages (e.g., Precontemplation, Contemplation, Action, Maintenance). Therefore, the limited time associated with the 12-month programs may account for the over-representation of the earliest Stages-of-Change, as the highest percentage (86%) of participants in the current sample was classified in the first two Stages-of-Change. This may have contributed to the skewed SOC distribution. The variability was limited in some ways and reduced variability inevitably contributes to lower correlation coefficients.

Rater's limited knowledge. Based on the stark contrast in observer ratings that occurred between the raters and the participants' perceptions, as measured by the questionnaires, it

could be inferred that an education period longer than thirty minutes may be needed for raters. Although some of the raters reported they were familiar with at least one of the models (SOC), more training appeared to be needed.

Future Directions in Research

Based on the findings of the current study and associated limitations, there are a number of directions for future research. For example, internalization as viewed by Deci and Ryan (1985, 2000, 2002) is a valuable contribution to the understanding of change. However, it would likely be helpful in regard to clinical applications, should the quality of measurement of its related constructs be improved. Efforts in this area may include the validation a new self-report measure or the revalidation and revamping of the scoring procedures of the TEQ. Such an instrument would need to include a subscale capable of measuring the highest level or most intrinsic form of internalization proposed by Deci and Ryan, which is Integrated Regulation. Also, the validity of the instrument would benefit from adding a subscale designed to measure socially desirable response sets or could be administered in conjunction with an established instrument such as the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960).

Measurement of Deci and Ryan's continuum of internalization may also be assessed using methods other than self-report. For example, a more in-depth understanding of an individual's level of internalization may be accessible through qualitative methods, whereby the individual responds through brief expressive writing tasks that tap into the theoretical content of each form of regulation on the continuum. Also, non-self-report measures, such as a comprehensive rating system, could be

developed that would allow other sources (e.g., treatment providers and case managers) to more accurately gauge a client's level of internalization.

In addition, future investigations may benefit from using other experimental designs that could overcome the limitations of the present study and improve external validity. Combined with improved measurement of the primary constructs, the setting within which the data is collected could be altered in order to reduce the possibility of contamination by actual or perceived coercion. Efforts in this area may include collecting data in non-coercive settings, such as in treatment centers or via mailed surveys. As well, the inclusion of comparison groups, such as persons who attend treatment of their own volition or persons coerced through other social means (e.g., family, work, or health). The use of two or more divergent groups could shed light on the effects of coercion on autonomy in substance-abuse treatment settings, as well as further examining the validity of the internalization continuum and its relationship to the Stages-of-Change.

An improved study design should also include programs that endure for the same length of time, which may serve to minimize over-representation of certain stages and the under-representation of others. As well, a comparison of the affects of program length using multiple lengths (e.g., 12 months versus 18 months versus 24 months) may also yield valuable information regarding temporal aspects of internalization. Also of benefit would be the examination of the relationship between the Stages-of-Change and internalization at various points in time following clinical intervention (e.g., 6 months, 18 months, 24 months post-treatment).

Despite the extensive research focused on the Transtheoretical Model and the Stages-of-Change (Prochaska & DiClemente, 1983, 1992), the process of “cycling”

appears to be completely absent from the vast body of related research. The original authors and subsequent authors and researchers (Berry et al., 2005; Callaghan & Herzog, 2005; Connors, et al., 2001; Herzog, 2007; Perz et al., 1996) acknowledge the occurrence of the “cycling” phenomena; however, studies dedicated to examining the process apparently have yet to take place. Therefore, the dynamics of stage-cycling would likely be a fruitful research endeavor.

Finally, a concentrated focus on the psychological needs of autonomy, competence, and relatedness, as presented by Deci and Ryan (1985, 2000, 2002), has profited from a significant amount of research in the fields of exercise and sport psychology (McDonough & Crocker, 2007; Vallerand & Reid, 1984; Viachopoulos & Michailidou, 2006; Wilson, Mack, Muon, & LeBlanc, 2007) and education (Deci & Ryan, 2008; Minnaert, Boekaerts, & de Brabander, 2007; Müller & Palekic, 2005; Sheldon, & Filak, 2008); however, the above-mentioned needs have yet to be examined in relation to the Stages-of-Change by any field in psychology. Therefore, future research may seek to investigate these relationships, as they are likely to contribute significantly to a richer understanding of the role of needs in facilitating change in human beings.

The DUI and Drug Court programs are a new social response to an old and expensive problem. The costs to individual lives and society as a whole are catastrophic. A more thorough understanding of the processes underlying substance-abuse treatment interventions is crucial for future success in addressing the condition of substance-abuse, addiction, and recovery from them. Prochaska and DiClemente’s (TTM; 1983, 1992) Transtheoretical Model has provided an excellent template in the Stages-of-Change for the clinical applications of conceptualizing needs, implementing interventions, and

measuring progress. Based on the findings of the current study, internalization, as proposed by Deci and Ryan (1985, 2000, 2002) is a related process that bolsters the effectiveness of all three clinical applications, even among populations that are inherently resistant to change (e.g., court-mandated).

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APPENDICES

APPENDIX A

The Drug Court Model for Substance Abuse Intervention

The programs from which the study participants will be drawn are termed *Drug Courts*. They are geared toward addressing the offender's drug abuse behavior with a philosophy set apart from the classic punitive model most frequently used by judicial systems. The traditional approach tends to employ probation, fines, community service, and incarceration as means of changing offender behavior. Although substance abuse treatment may be included at sentencing, little to no follow up by the judicial system regarding the offender's participation or progress leaves the offender much to his or her own devices. In considering the tenacity of addictive disorders, it is not uncommon in the given situation that the offender may not initiate treatment at all, and in cases where they do they may not fully engage in the treatment process. Conversely, Drug Courts have been described as "a new working relationship between the criminal court and health and treatment systems carried out within the boundaries of the court's jurisdiction" (Goldkamp, White, & Robinson, 2001. p. 29). According to Goldkamp and colleagues (2001), "in comparison with methods previously in existence in the judicial system, the aims of the Drug Court model are much less punitive and more healing and restorative in nature" (p. 29). The intervention model includes increased levels of court supervision through weekly or bi-weekly judicial and probation contact, drug testing, treatment services for the substance-related disorder, and the use immediate sanctions and incentives to shape recovery behaviors (Mack, Frances, & Miller, 2005).

Sanctions within the Drug Court system are imposed for a range of behaviors that are considered not supportive of addiction recovery, such as not attending self-help

meetings or counseling sessions, not reporting to the probation officer, failed drug or alcohol screens, or non-compliance with other requirements (e.g., fraternization, non-payment of fees). Sanctions are graduated, with less serious and/or first-time rule violations receiving less severe sanctions and more serious and/or more repeated rule violations receiving more severe sanctions. For example, missing a court session or failing a drug screen will be met with a much harsher penalty than non-payment of fees or tardiness to a counseling session. Likewise, even infractions that are minor in scope are met with increasingly more severe penalties as the behavior is repeated. As previously implied, sanctions may increase in severity, intensity, and duration. They may include verbal warnings/admonishments, additional community service work, writing assignments, book reports from recovery-related literature, increased drug or alcohol testing, increase in reporting/supervision requirements (e.g., more frequent visits to probation), house arrests, curfews, escalating periods of incarceration (e.g., 6, 12, 24, or 36 hours), and termination (Burdon, Roll, Prendergast, & Rawson, 2001).

Similar to sanctions, incentives are also graduated with smaller rewards granted for minimal compliance and greater rewards for increased or sustained recovery-related behaviors. For example, incentives may be given to participants who meet all contact requirements for a given period of time (e.g., attending all counseling sessions, probation visits, and self-help meetings for a month) or for passing random drug and alcohol screens; the latter of which is considered the result of a highly valued behavior (abstinence), thereby warranting a more significant reward. Incentives may include positive verbal recognition by the judge (which is often followed by applause from those present in the court room), credits against remaining balances of community service

hours, credits against fine balances, reduction or removal of curfew, decreases in reporting requirements, goods and services provided by community businesses and organizations (e.g., free meals, movie passes, theme park tickets, gift cards), dismissal of charges, and graduation (Burdon, et al., 2001). As participants progress through the program their recovery behavior is managed through contingencies established and imposed by the court with the objective of “motivating the participants to complete treatment, comply with program requirements, and remain drug free” (Lindquist, Krebs, & Lattimore, 2006, p. 120). The final and climactic incentive for participants is “graduation,” which is a ceremonious celebration held on a periodic basis and is used to acknowledge the wide-ranging accomplishments of the participants who have completed the Drug Court program (e.g., extended abstinence, return of driving privileges, gainful employment, reparation of family relationships, servant leadership and mentoring of other participants). Graduation ceremonies are open to the public and are held in the presence of all Drug Court participants with the goal of inspiring change and motivating participant toward program completion.

The incentive-sanction paradigm may be implemented upon outset of processing the offender’s case. As a consequence of a substance-related legal conviction, the offender is offered the choice to participate in a Drug Court program as a condition of a probated sentence in lieu of a standard sentence (e.g., incarceration, maximum community service and fine). The offer is tendered by the presiding judge following his or her determination that the offender is eligible based on predetermined criteria (e.g., a nonviolent criminal history). Incentives to participate may include no period of incarceration, reduced fines, reduced community service requirements, and in some cases

the opportunity for disposition of the conviction with program completion. Prior to choosing, the offender and/or his or her legal council is presented with information outlining the program's requirements along with a participation contract for review before or during the sentencing segment of the related court session . The procedure allows the offender to make an informed decision as to the potential benefits and limitations of his or her participation in the program (Belinko, 1998).

After entering the program and for the duration of the program, Drug Court participants attend a "status hearing" on a bi-weekly basis. The hearings are not open to the public and are conducted exclusively for the program participants. No other proceedings or cases are on the court's docket during status hearings. The hearings are held in a court room for the purpose of checking the status of the Drug Court participants in the following areas: treatment attendance and progress, self-help attendance (e.g., AA or NA), general program compliance (e.g., probation requirements, ongoing community service work), and abstinence from drugs and/or alcohol. Also during the status hearings contingency management (e.g., incentives and sanctions for compliance and/or progress) is facilitated on an individual basis. Persons present during status hearings are the presiding judge, the Drug Court program coordinator and a secretarial staff member, the probation officer(s), the substance abuse treatment provider(s), the case manager(s), courthouse deputies, and all Drug Court participants; regardless of how far along they are in the program.

Treatment for the substance-use disorder is typically guided by evidence-based approaches that often consist of motivational interviewing (Miller & Rollnick, 2002), abstinence verification (drug screening), pharmacotherapy (McCance-Katz & Kosten,

2005), contingency management (Burdon et al., 2001; Lindquist, et al., 2006; Maxwell, 2000), family education (Stanton & Heath, 2005), group therapy, individual therapy, and 12-Step programs (Carroll, 2005; Galanter, Hayden, Catañeda, & Franco, 2005). A treatment plan is implemented following an in-depth evaluation of the participant conducted by the Drug Court coordinator or case manager and a substance abuse treatment professional. Treatment considerations may include, but are not limited to the following: The need for detoxification, the specific drug-of-choice (e.g., alcohol, marijuana, opiates, hallucinogens, amphetamine, cocaine), the chronicity of the substance-use disorder (e.g., abuse versus dependence based on diagnostic criteria), the presence and severity of co-occurring disorders (e.g., cognitive, psychotic, affective, personality), psychosocial aspects (e.g., history, available support network, housing, employment), drug screen frequency, and matching the participant with optimal interventions based on his or her needs identified through the assessment process (Carroll, 2005).

The format of a Drug Court program is commonly segmented into decreasingly graduated phases of both supervision and substance abuse intervention (Belinko, 1998). For example, the earlier phases require more participation and contact on the part of the offender with the judge, the probation officer, and the treatment providers, while the latter phases require less contact and participation. Each court program is established independently and thus determines the number of phases and associated requirements as seen fit by the presiding judge and related entities (e.g., court services, probation, and treatment). Although the duration of a program and required levels of contact and activity commonly follow an overarching phase-based format, the length and intensity of the

Drug Court intervention is based on the offender's progress, which is evaluated on an ongoing basis. For example, some individuals may actively take part in the program for 12 to 18 months with decreasing requirements for contact and participation until they graduate, while others may remain in the program for up to 24 or 36 months before graduating because of frequent or periodic relapses to drug or alcohol use.

APPENDIX B

Demographic Data Sheet

Please provide all the information on the following three pages

Age: _____

Gender: Male Female

Ethnicity (Please circle):

African American Asian American Indian Caucasian Hispanic Islander Other

Currently Employed: Y N **Current Program Phase:** _____

Drug(s) of Choice (favorite mood-altering chemical): _____
(e.g., alcohol, marijuana, cocaine, methamphetamine, Rx)

Total length of time: In program (months): _____ **Before you complete** _____

Number of treatment sessions currently attending per week: Group _____ Individual _____

Number of treatment sessions required to attend per week: Group _____ Individual _____

On average, how many self-help (AA, NA, CA) meetings attended per week: _____

How many self-help (AA, NA, CA) meetings are required per week: _____

In the columns provided below, please record the descriptions of specific sanctions imposed during your participation in the program over the past THREE months and the number of times the sanction was imposed.

SANCTION TYPE (Description)	# of Times (last 3 months)
	# _____
	# _____
	# _____
	# _____
	# _____
	# _____
	# _____
	# _____
	# _____
	# _____
	# _____
	# _____
	# _____

APPENDIX C

**University of Rhode Island Change Assessment
(URICA)**

TODAYS DATE: _____

Each statement describes how a person might feel when starting therapy or approaching problems in their lives. Please indicate the extent to which you tend to agree or disagree with each statement. In each case, make your choice in terms of how you feel right now, not what you have felt in the past or would like to feel. For all the statements that refer to your "problem," answer in terms of which substance you identify as the "PROBLEM" below. In these questions, the word "here" refers to this program.

PROBLEM: (please circle one of the following) **DRUGS** **ALCOHOL** **BOTH**

There are FIVE possible responses to each of the items in the questionnaire:

- 1 - Strongly Disagree
- 2 - Disagree
- 3 - Undecided
- 4 - Agree
- 5 - Strongly Agree

Circle the response that best describes how much you agree or disagree with each statement.

1. As far as I am concerned, I don't have any problem that needs changing.

- | | | | | |
|----------------------|----------|-----------|-------|-------------------|
| 1 | 2 | 3 | 4 | 5 |
| Strongly
Disagree | Disagree | Undecided | Agree | Strongly
Agree |

2. I think I might be ready for some self-improvement.

- | | | | | |
|----------------------|----------|-----------|-------|-------------------|
| 1 | 2 | 3 | 4 | 5 |
| Strongly
Disagree | Disagree | Undecided | Agree | Strongly
Agree |

3. I am doing something about the problems that have been bothering me.

- | | | | | |
|----------------------|----------|-----------|-------|-------------------|
| 1 | 2 | 3 | 4 | 5 |
| Strongly
Disagree | Disagree | Undecided | Agree | Strongly
Agree |

4. It might be worthwhile to work on my problem.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

5. I am not the one with a problem. It doesn't make much sense for me to be here.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

6. It worries me that I might slip back on a problem I have already changed, so I am here to seek help.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

7. I am finally doing some work on my problem.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

8. I've been thinking that I might want to change something about myself.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

9. I have been successful in working on my problem, but I'm not sure I can keep up the effort on my own.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

10. At times my problem is difficult, but I'm working on it.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

11. Being here is pretty much of a waste of time for me because the problem doesn't have to do with me.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

12. I'm hoping this place will help me to better understand myself.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

13. I guess I have faults, but there is nothing that I really need to change.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

14. I am really working hard to change.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

15. I have a problem and I really think I should work on it.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

16. I'm not following through with what I had already changed as well as I had hoped, and I'm here to prevent a relapse of the problem.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

17. Even though I'm not always successful in changing, I am at least working on my problem.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

18. I thought once I had resolved the problem I would be free of it, but sometimes I still find myself struggling with it.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

19. I wish I had more ideas on how to solve my problem.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

20. I have started working on my problems, but I would like help.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

21. Maybe this place will be able to help me.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

22. I may need a boost right now to help me maintain the changes I've already made.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

23. I may be part of the problem, but I don't really think I am.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

24. I hope that someone here will have some good advice for me.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

25. Anyone can talk about changing; I'm actually doing something about it.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

26. All this talk about psychology is boring. Why can't people just forget about their problems?

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

27. I'm here to prevent myself from having a relapse of my problem.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

28. It is frustrating, but I feel I might be having a recurrence of a problem I thought I had resolved.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

29. I have worries but so does the next guy. Why spend time thinking about them?

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

30. I am actively working on my problem.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

31. I would rather cope with my faults than try to change them.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

32. After all I have done to try to change my problem, every now and again it comes back to haunt me.

1
Strongly
Disagree

2
Disagree

3
Undecided

4
Agree

5
Strongly
Agree

APPENDIX C-1

URICA Items by Subscale

Precontemplation Subscale

Items: 1, 5, 11, 13, 23, 26, 29

Contemplation Subscale

Items: 2, 8, 12, 15, 19, 21, 24

Action Subscale

Items: 3, 7, 10, 14, 17, 25, 30

Maintenance Subscale

Items: 6, 16, 18, 22, 27, 28, 32

APPENDIX D

Treatment Entry Questionnaire (TEQ)

INSTRUCTIONS: Please indicate whether you agree or disagree with each of the following statements by circling a number that best reflects your own personal opinion, as of **TODAY**. Remember, there are no right or wrong answers, and your responses are completely confidential.

1. I regard myself as an alcoholic/drug addict.

1	2	3	4	5	6	7
Strongly Disagree			Neutral			Strongly Agree

2. If I remain in treatment it will probably be because I feel that it's the best way to help myself.

1	2	3	4	5	6	7
Strongly Disagree			Neutral			Strongly Agree

3. I plan to go through with a treatment program because I'll hate myself if I don't get my habit under control.

1	2	3	4	5	6	7
Strongly Disagree			Neutral			Strongly Agree

4. I have agreed to follow a treatment program because I was referred for treatment by the legal system.

1	2	3	4	5	6	7
Strongly Disagree			Neutral			Strongly Agree

5. I think I can learn to control my drinking/drug use.

1	2	3	4	5	6	7
Strongly Disagree			Neutral			Strongly Agree

17. For me, one drink/one hit inevitably leads to many more.

1	2	3	4	5	6	7
Strongly Disagree			Neutral			Strongly Agree

18. I decided to enter a program because I really want to make some changes in my life.

1	2	3	4	5	6	7
Strongly Disagree			Neutral			Strongly Agree

19. I have agreed to follow a program because I want others to see that I am really trying to deal with my habit.

1	2	3	4	5	6	7
Strongly Disagree			Neutral			Strongly Agree

20. I plan to go through with treatment because I'll be ashamed of myself if I don't.

1	2	3	4	5	6	7
Strongly Disagree			Neutral			Strongly Agree

21. I think I could learn to drink/use drugs socially.

1	2	3	4	5	6	7
Strongly Disagree			Neutral			Strongly Agree

22. I decided to enter a program because no one other than myself can change the way I am.

1	2	3	4	5	6	7
Strongly Disagree			Neutral			Strongly Agree

34. My friends strongly pressured me to come into a program.

1	2	3	4	5	6	7
Strongly			Neutral			Strongly
Disagree						Agree

35. If I remain in treatment it will probably be because I'll feel very bad about myself if I don't.

1	2	3	4	5	6	7
Strongly			Neutral			Strongly
Disagree						Agree

36. I have agreed to follow a treatment program because it is a personal challenge for me to deal with my problem.

1	2	3	4	5	6	7
Strongly			Neutral			Strongly
Disagree						Agree

37. I would prefer moderate drinking/drug use to abstinence.

1	2	3	4	5	6	7
Strongly			Neutral			Strongly
Disagree						Agree

38. I have agreed to follow a treatment program because I was pressured to come.

1	2	3	4	5	6	7
Strongly			Neutral			Strongly
Disagree						Agree

39. I decided to enter a program because people will like me better when I've dealt with my habit.

1	2	3	4	5	6	7
Strongly			Neutral			Strongly
Disagree						Agree

40. I was basically forced into a treatment program.

1	2	3	4	5	6	7
Strongly Disagree			Neutral			Strongly Agree

41. Sometimes I can drink/use drugs moderately, depending on circumstances.

1	2	3	4	5	6	7
Strongly Disagree			Neutral			Strongly Agree

42. I would prefer abstinence to moderate drinking/drug use.

1	2	3	4	5	6	7
Strongly Disagree			Neutral			Strongly Agree

APPENDIX D-1

TEQ Items by Subscale

Internalization

External Regulation Subscale

Items: 7, 8, 12, 15, 16, 19, 23, 28, 31, 34, 38, 40

Introjected Regulation Subscale

Items: 3, 11, 20, 24, 35, 39

Identified Regulation Subscale

Items: 2, 10, 14, 18, 22, 27, 30, 32, 36

Unrelated Subscales

Addiction Belief Items: 1, 17, 25, 33

Controlled Use Goal Items: 5, 9, 21, 37, 41

Abstinence Goal Items: 13, 29, 42

Items Not Used in Scoring: 4, 6, 26

APPENDIX E

Perceived Coercion Questionnaire

Instructions: Please indicate whether you agree or disagree with each of the following sentence stems by circling a number that best reflects your opinion regarding **AS OF TODAY** versus how you may have felt in the past;

I feel pressured to participate in this drug/alcohol treatment program...

1. because I know that I'm an addict/alcoholic and that I need rehab to get off drugs/alcohol.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree

2. because entering this program is my last and only hope.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree

3. because I don't know where else to go and what else to do.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree

4. because I feel horrified and ashamed of the person I have turned into.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree

5. because my family kept telling me what a bad person I have turned into an how messed up I am.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree

6. because I'm sick and tired of losing everything(e.g., things, people, etc.) to drugs/alcohol.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree

7. because my family was constantly on my back, telling me that I have a drug/alcohol problem.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree

8. because my family made me feel guilty by telling me how much I hurt them.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree

9. because I was told that I am destroying my family through my behavior.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree

10. because members of my family got upset all the time about my drug/alcohol use (crying, screaming).

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree

11. because I was legally required.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree

12. because I had the choice between jail and rehab.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree

13. because people from the legal system(e.g., police) kept knocking on my door, threatening me with jail.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree

14. because people in the legal system forced me to do this.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree

15. because I didn't want to do time in jail.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree

16. because I'm up to my ears in financial problems and I don't know what to do.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree

17. because I wanted to escape people /institutions that are after me for money.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree

18. because I have lost all financial support (e.g., job, family, banks, government departments, etc.).

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree

19. because I have no money to support myself.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree

20. because I'm sick and tired of being in debt.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree

21. because of my bad health.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree

22. because I have had enough of being sick all the time.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree

23. because I am scared of the negative consequences on my health if I don't stop using/drinking.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree

24. because health-care professionals (e.g., doctors, psychologists, etc.) kept telling me that I need rehab.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree

25. because people keep telling me how sick I look.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree

26. because I lost my job due to substance abuse.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree

27. because my employer threatened to fire me.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree

28. because my colleagues at work keep telling me that I need rehab.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree

29. because my work colleagues complained about me.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree

30. because I got into trouble at work because of my substance abuse.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree

APPENDIX E-1

PCQ Items by Subscale

Self Subscale

Items: 1, 2, 3, 4, 6

Family Subscale

Items: 5, 7, 8, 9, 10

Legal Subscale

Items: 11, 12, 13, 14, 15

Finance Subscale

Items: 16, 17, 18, 19, 20

Health Subscale

Items: 21, 22, 23, 24, 25

Work Subscale

Items: 26, 27, 28, 29, 30

APPENDIX F

Judge's Rating Form

In the space provided below, please record the ticket number and your perception of the corresponding court program participant's placement on each of the continuums (Internalization and Stages-of-Change) by circling the appropriate descriptive category.

TICKET # _____

Internalization: External Introjected Identified

Stages-of-Change: Precontemplation Contemplation Action Maintenance

TICKET # _____

Internalization: External Introjected Identified

Stages-of-Change: Precontemplation Contemplation Action Maintenance

TICKET # _____

Internalization: External Introjected Identified

Stages-of-Change: Precontemplation Contemplation Action Maintenance

TICKET # _____

Internalization: External Introjected Identified

Stages-of-Change: Precontemplation Contemplation Action Maintenance

APPENDIX F-1

Service Provider's Rating Form

In the space provided below, please record the ticket number and your perception of the corresponding court program participant's placement on each of the continuums (Internalization and Stages-of-Change) by circling the appropriate descriptive category.

TICKET # _____

Internalization: External Introjected Identified

Stages-of-Change: Precontemplation Contemplation Action Maintenance

TICKET # _____

Internalization: External Introjected Identified

Stages-of-Change: Precontemplation Contemplation Action Maintenance

TICKET # _____

Internalization: External Introjected Identified

Stages-of-Change: Precontemplation Contemplation Action Maintenance

TICKET # _____

Internalization: External Introjected Identified

Stages-of-Change: Precontemplation Contemplation Action Maintenance

APPENDIX G

**Research Description & Invitation to Participate
for
Raters**

Title of Project: Internalization and Stages of Change
Principal Investigator: Shannon K. Dunlap, MS, LPC
Supervising Investigator: Randolph Pipes, PhD
Contact Info: Shannon K. Dunlap (706) 884-5050
610 Ridley Avenue; LaGrange, GA 30240

**DO NOT AGREE TO PARTICIPATE UNLESS AN IRB APPROVAL
STAMP WITH CURRENT DATES HAS BEEN APPLIED TO THIS
DOCUMENT**

As a court program judge or service provider (who is currently providing direct services to DUI or Drug Court program participants), you are being invited to participate in a research project that will be supervised by Randolph B. Pipes, Ph.D. of Auburn University. The purpose of the project is to learn more about the thinking processes people are using when they consider changing from a lifestyle that includes the use of drugs and/or alcohol to a lifestyle that does not include drugs and/or alcohol.

What will be involved if you participate? If you decide to participate in this research study, you will be asked to complete a rating form, which require the ability to read and write in the English language. Your total time commitment as a rater will be related to the number of court program participants you serve. The time required to rate a participant is expected to take approximately 30 seconds up to 2 minutes.

Are there any risks or discomforts? The risks associated with participating in this study are emotional or psychological discomfort that you may experience from rating other people. To minimize these risks, I will provide you with a list of mental health resources available in your area. The data being collected will remain permanently anonymous as long as you provide only the information requested and you do not provide yours or the participant's specific identifiable information (such as name, phone #, Social Security #, signature, etc.) on any of the research materials.

Are there any benefits to yourself or others? If you participate in this study, you may gain some insight about your clients' progression toward change. If you are interested, you may request a copy of the research summary that will be made available to your Drug Court coordinator following the completion of the study. However, I cannot promise you that you will receive any or all of the benefits described.

Will you receive compensation for participating? No

Are there any monetary costs to you as a participant? No

If you change your mind about participating, you can withdraw at any time during the study. Your participation is completely voluntary. If you choose to withdraw, you may return the materials to me without completing them. Your decision about whether or not to participate or to stop participating will not jeopardize your future relations with me, Auburn University, the Department of Counseling Psychology, or your standing with the team on which you are currently participating.

Any data obtained in connection with this study will remain anonymous. We will protect your privacy and the data you provide by not requiring that you reveal any information that may lead to your identification. The anonymous information collected through your participation will be used to fulfill an educational requirement and may be published or presented professionally.

If you have questions about this study, *please ask them now or* contact Mr. Shannon Dunlap at (706) 884-5050 or Dr. Randolph Pipes at (334) 844-2883.

If you have questions about your rights as a research participant, you may contact the Auburn University Office of Human Subjects Research or the Institutional Review Board by phone (334)-844-5966 or e-mail at hsubjec@auburn.edu or IRBChair@auburn.edu.

HAVING READ THE INFORMATION PROVIDED, YOU MUST DECIDE IF YOU WANT TO PARTICIPATE IN THIS RESEARCH PROJECT. IF YOU DECIDE TO PARTICIPATE, THE DATA YOU PROVIDE WILL SERVE AS YOUR AGREEMENT TO DO SO. THIS DOCUMENT IS YOURS TO KEEP.

Investigator's signature
Shannon K. Dunlap, MS

Date

Supervising Investigator
Randolph B. Pipes, PhD

Date

Explanation of Concepts for Raters

Stages-of-Change (SOC):

Precontemplation.....Contemplation.....Action.....Maintenance

The SOC model that depicts categories individuals tend to fall in while in the process of making significant changes in their lives. The model can be viewed as a continuum along which an individual may traverse toward long-lasting or permanent change. It can be and has been applied to almost any significant problem behavior.

Precontemplation represents a stage in which there is little or no consideration of change of the current pattern of behavior in the foreseeable future. Precontemplation is characterized by the lack of intent to change. The problem is not recognized as troublesome and/or it may be seen as having more benefits than drawbacks.

Contemplation represents a stage wherein the individual examines the current pattern of behavior and the potential for change in a risk- reward analysis. Contemplation is characterized by the individual thinking about the possibility of change, seeking information and evaluating, but not yet being prepared to change.

Action represents the stage in which the individual implements the plan and takes steps to change the current behavior pattern and to begin creating a new behavior pattern. Action is characterized by the modification of the problem behavior (e.g., protracted periods of abstinence, increased activity in therapy sessions, voluntary attendance to self-help meetings, etc.) and the development of new skill sets to prevent returning to the problem behavior (e.g., help-seeking, use of NA or AA sponsors, honestly talking about cravings, etc.).

Maintenance represents the stage wherein the new behavior pattern is sustained for an extended period of time and is consolidated into the lifestyle of the individual. Maintenance is typically characterized by the new behavior becoming the status quo, with little effort or thought given to sustaining the changes that he or she has achieved.

APPENDIX I

Research Description & Invitation to Participate

Title of Project: Internalization and Stages of Change
Principal Investigator: Shannon K. Dunlap, MS, LPC
Supervising Investigator: Randolph Pipes, PhD
Contact Info: Shannon K. Dunlap (706) 884-5050
610 Ridley Avenue; LaGrange, GA 30240

DO NOT AGREE TO PARTICIPATE UNLESS AN IRB APPROVAL STAMP WITH CURRENT DATES HAS BEEN APPLIED TO THIS DOCUMENT

As an active Drug Court Program participant over the age of 18, you are being invited to take part in a research project that is supervised by Randolph B. Pipes, Ph.D. of Auburn University. Your participation in this study is completely voluntary and your decision to do so or not will have no bearing on your status in the Drug Court program. The purpose of the project is to learn more about the thinking processes people are using when they consider changing from a lifestyle that includes the use of drugs and/or alcohol to a lifestyle that does not include drugs and/or alcohol.

What will be involved if you participate? If you decide to participate in this research study, you will be asked to complete a demographic data sheet and three questionnaires, which require the ability to read and write in the English language. Your total time commitment will be approximately 30 to 35 minutes. We will be asking the judge and some members of your program's team about your progress toward change.

Are there any risks or discomforts? One possible risk to you if you participate in this study is emotional or psychological discomfort from reading and responding to the questionnaires. To minimize this risk, I will provide you with a list of mental health resources available in your area.

Also, it is possible that you may feel like you "have to or are expected to participate." Please understand that your participation is completely voluntary. We do not record your name or social security number; arrangements have been made and procedures are in place to ensure that your judge and your program team will not be aware of your decision to participate or not participate in this study. Therefore, your decision will have no affect whatsoever on your status in the program. In short, no member of the Drug Court Team, including the judge, will be rewarding you or punishing you for your participation or non participation because they won't know whether you did or didn't participate.

To protect your anonymity and your confidentiality, as noted above, we do not ask you for your name or your social security number. Furthermore, we ask only a few questions about demographic data. To further protect you, we will record and analyze the data “as a group” so that when we describe the findings, no one will be able to tell who gave what answer to the questions. It is true, however, that if you participate in the drawing, and win (see below), others will know that you participated.

Are there any benefits to yourself or others? There are not likely to be any benefits to you if you decide to participate in the study. Although, there may be benefits to others who may be involved in a similar type of program in the future, I cannot promise you that they will receive any benefits.

Will you receive compensation for participating? To thank you for your time you will be offered a chance at winning a \$25 Wal-Mart or Home Depot Gift Card. For every ten completed survey packets, another gift card valued at \$25 will be added to the drawing. The winner(s) of the drawing will have the choice between a gift card from Wal-Mart or Home Depot. The drawing will be held immediately following the collection of all research materials and will take place in the courtroom.

Are there any monetary costs to you as a participant? No

If you change your mind about participating, you can withdraw at any time during the study. Your participation is completely voluntary. If you choose to withdraw, you may return the materials to me without completing them. Your decision about whether or not to participate or to stop participating will not jeopardize your future relations with me, Auburn University, the Department of Counseling Psychology, or your standing in the program in which you are currently participating. Once you turn in your responses, you will be unable to withdraw them because we will not have any way to identify you.

If you decide not to participate. If you choose not to participate, the procedures of this study are designed so that neither the judge nor any member of the DUI or Drug Court team will know that you decided not to participate.

Any data obtained in connection with this study will remain anonymous. We will protect your privacy and the data you provide by not requiring that you reveal any information that may lead to your identification. Information collected through your participation will be used to fulfill an educational requirement and may be published or presented professionally.

If you have questions about this study, *please ask them now or* contact Mr. Shannon Dunlap at (706) 884-5050 or Dr. Randolph Pipes at (334) 844-2883. If you are interested, you may request a copy of the research summary that will be made available to your Drug Court coordinator following the completion of the study.

If you have questions about your rights as a research participant, you may contact the Auburn University Office of Human Subjects Research or the Institutional Review Board by phone (334)-844-5966 or e-mail at hsubjec@auburn.edu or IRBChair@auburn.edu.

HAVING READ THE INFORMATION PROVIDED, YOU MUST DECIDE IF YOU WANT TO PARTICIPATE IN THIS RESEARCH PROJECT. IF YOU DECIDE TO PARTICIPATE, THE DATA YOU PROVIDE WILL SERVE AS YOUR AGREEMENT TO DO SO. THIS DOCUMENT IS YOURS TO KEEP.

Investigator's signature
Shannon K. Dunlap, MS

Date

Supervising Investigator
Randolph B. Pipes, PhD

Date

APPENDIX J

Script for Research Assistant

Hello, my name is _____. I am not affiliated with the Drug Court, but I am here to let you know that the status hearing proceedings are going to be delayed today for 30 to 40 minutes.

I am also here to invite you to participate in a research study that has to do with how people make changes in their lives. This document will provide you with some basic information (hands out information sheet). If you are interested in participating you will need to go to room _____, which is a conference room that is unaffiliated with Drug Court and is located on the _____ floor.

By going to room _____ you are not agreeing to participate, but will be able to receive more information about the study, should you continue to be interested.

Please understand that participation in this study is completely voluntary and will have no bearing on your status in the Drug Court program. In fact, the judge nor any one on the Drug Court team will be aware of who did or did not participate.

I hope you will consider finding out more about the study. Thank you.

APPENDIX K

Research Script for “Internalization and Stages of Change”

As a Drug Court Program participant over the age of 18, you are being invited to take part in a research project that is being conducted by me, Shannon Dunlap, and supervised by Randolph B. Pipes, PhD. Neither my assistant nor I are associated with your Drug Court program in any way. Your participation in this study is completely voluntary and your decision to do so or not will have no bearing on your status in the Drug Court program. The purpose of the project is to try and learn more about drug and the thinking processes people are using when they consider changing from a lifestyle that includes alcohol and/or drugs to one that does not.

If you decide to participate in this research study, you will be asked to complete a demographic data sheet and three questionnaires. Your total time commitment will be approximately 30 to 35 minutes. We will be asking the judge and some members of your program’s team about your progress toward change.

One possible risk to you if you participate in this study is emotional or psychological discomfort from reading and responding to the questionnaires. To minimize this risk, I will provide you with a list of mental health resources available in your area.

Also, it is possible that you may feel like you “have to or are expected to participate.” Please understand that your participation is completely voluntary. We do not record your name or social security number; arrangements have been made and procedures are in place to ensure that your judge and your program team will not be aware of your decision to participate or not participate in this study. Therefore, your decision will have no effect whatsoever on your status in the program. In short, no member of the Drug Court Team, including the judge, will be rewarding you or punishing you for your participation or non participation because they won’t know whether you did or didn’t participate.

To protect your anonymity and your confidentiality, as noted above, we do not ask you for your name or your social security number. Furthermore, we ask only a few questions about demographic data. To further protect you, we will record and analyze the data “as a group” so that when we describe the findings, no one will be able to tell who gave what answer to the questions. It is true, however, that if you participate in the drawing, and win (see below), others will know that you participated.

To thank you for your time you will be offered no less than a 1-in-10 chance at winning a \$25 Home Depot or Wal-Mart Gift Card. Basically, for every 10 participants, another \$25 card will be added to the drawing. There are no monetary costs to you as a participant?

If you participate in this study, you are not likely to gain any particular benefits, but others may benefit from the research. However, I cannot promise that they will receive any benefits.

If you change your mind about participating, you can withdraw at any time during the study. Your participation is completely voluntary. If you choose to withdraw, you may return the materials to me without completing them. Your decision about whether or not to participate or to stop participating will not jeopardize your future relations with me, Auburn University, the Department of Counseling Psychology, or your standing in the program in which you are currently participating.

Any data obtained in connection with this study will remain anonymous. We will protect your privacy and the data you provide by not requiring that you reveal any information that may lead to your identification and by storing the information in a safe place. Information collected through your participation will be used to fulfill an educational requirement... a dissertation. If you are interested, you may request a copy of the research summary that I will make available to your Drug Court coordinator following the completion of the study

If you have questions about this study, *please ask them now or* contact me, Shannon Dunlap or Dr. Randolph Pipes. **If you have questions about your rights as a research participant**, you may contact the Auburn University Office of Human Subjects Research or the Institutional Review Board.

APPENDIX L



dunlask@auburn.edu
(Guilford Website User)
01/15/2009 09:57 AM

To permissions@guilford.com, guilford2@formatease.com
cc
bcc

Subject: Republication Permissions Request

Below is the result of your feedback form. It was submitted by Guilford Website User (dunlask@auburn.edu) on Thursday, January 15, 2009 at 09:57:11

name: Shannon K. Dunlap
inst: Auburn University
add1: 105 Westgate Drive
city: LaGrange
state: GA
zip: 30240
country: USA
phone: 706-881-3497
fax: 706-884-5050
GP_title: Addiction and Change
isbn: 1-57230-057-4
author: Carlo C. DiClemente
author_ynsno: no
chapter: Chapter 2: The Process of Human Intentional Behavior Change
figures: Table 2.2 and Table 2.3
pagenum: Page 27 and Page 34
pubyear: 2003
yourtitle: Internalization: An Underlying Mechanism for Stage Movement & Recovery
yourtitle_auth: Shannon K. Dunlap
publisher: Auburn University
pubdate: May, 2009
printhead_printrun: 5
printhead_price: 0

Handwritten notes:
permissions@guilford.com
M/C
02/04/09

APPENDIX M



Dear Colleague:

Thank you for your interest in the TEQ. Please take a moment to complete the following registration form and return it to me.

Sincerely,

A handwritten signature in cursive script, appearing to read "C. Wild".

T. Cameron Wild, PhD
Alberta Heritage Foundation for Medical Research Health Scholar
Associate Professor
School of Public Health
University of Alberta

Registration of Intent to Use the Treatment Entry Questionnaire	
Principal Investigator	Shannon K. Dunlap, MS
Position	Doctoral Candidate
Institution	Auburn University (Auburn, Alabama)
Email Address	dunlask@auburn.edu
Phone Number	(706) 881-3497
Other Investigators	N/A
Brief Statement of Research Question(s)	Internalization: A Process Related to Stages-of-Change Among Court-Mandated Participants in a Substance Abuse Program
Target Population/Sample Size	Court-mandated / TBD
Brief Description of Methodology	Correlation
Other Measures to be Used	URICA & Percieved Coercion Questionnaire (PCQ)
Expected Data Collection Period	9/08 to 11/08
In submitting this form, I agree to provide a summary of the findings of this study to Dr. Wild within 12 months of completion. Please check all of the boxes that apply to you:	
<input checked="" type="checkbox"/> I will be using the TEQ long form <input type="checkbox"/> I will be using the TEQ short form	
<input checked="" type="checkbox"/> I agree to provide access to the dataset to Cameron Wild, upon request, for the purposes of further psychometric analyses of the TEQ. If this access is provided, Dr. Cameron Wild agrees not to publish any results using this dataset, without the permission of the Principle Investigator identified above (or his/her designate).	



Please return the form to:

Dr. Cameron Wild
Associate Professor and Director
Addiction and Mental Health Research Laboratory
Centre for Health Promotion Studies
School of Public Health
University of Alberta
13-103 Clinical Sciences Building
Edmonton, Alberta, Canada T6G 2G3
Email: cam.wild@ualberta.ca
Fax: 780.492.0364