

ASSESSING SELF DETERMINING ATTITUDES AND BEHAVIORS IN
COURT MANDATED TREATMENT CLIENTS

By

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ASSESSING CLIENT MOTIVATION IN COURT MANDATED SUBSTANCE
ABUSE TREATMENT

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Chapter I

Introduction

The cost of substance abuse in America is staggering. The National Drug Intelligence Center (NDIC) at the U.S. Department of Justice reports an economic impact of \$215 billion dollars due to criminal activity, health costs and lost production (2011). These costs reflect the strain on the health care system, crime related to drug use, financial loss due to unemployment or underemployment and resulting reliance on social services (NDIC, 2010). The impact of income-generating criminal enterprises, violent crimes and substance abuse affect others outside the criminal justice system. Premature death, lost productivity and health expenditures all contribute to the astronomical burden our society must bear (NDIC, 2010). The destruction continues to filter through communities, touching nearly every aspect of the affected person's life and their environment. In addiction's wake, families dissolve, children grow up in poverty, jails become overloaded and the moral fabric of our society is rent. The connections between substance abuse and lost economic production and social decay show the need for effective treatment models that address the whole person prompting their return to productivity in society.

Incarceration vs. Treatment of Substance Abusers

Experts in criminal justice have professed that a judicial approach to ending the drug problem has resulted in little more than overcrowded jails for over a decade. Barry R. McCaffrey, Former Director of the Office of National Drug Control Policy, in a

speech at the First Annual Criminal Justice and Substance Abuse Conference in Albany, New York in June of 1999 stated “it is clear we cannot arrest our way out of the problem of chronic drug abuse and drug driven crime” (Poor, 1999, p 1). McCaffery was one of the first to grasp the inefficiency of incarcerating substance abusers and the burgeoning problems these cases pose for the criminal justice system. The problem has only increased since the former Director of National Drug Control Policy made this important observation. The United States Department of Justice (DOJ) (2010) reports that “In 2006, over 7.2 million people were on probation, in jail or prison, or on parole at year end 2006...3.2% of all U. S. adult residents or 1 in every 31 adults” (n.p.) As a result more of our citizens are incarcerated per capita than any other nation (Bureau of Justice Statistics, 2010).

In the judicial system, the abuse of substances is a major factor in crime commission. According to Bureau of Justice Statistics (2001), almost 30% of offenders discussed alcohol or drug use as a contributing factor in the commission of their crime. In 2008 the National Institute of Justice lamented the current revolving door nature of substance abuse and continued crime when reporting “attempts to deter drug use through punishment fail because they do not address the complex causes of drug abuse, which begin within the context of family problems and peer deviant behavior. One characteristic necessary for successful programs is continuing, comprehensive aftercare in the community. This reduces the chances that someone will be arrested and convicted again” (p.1). The National Criminal Justice Association agrees,

“incarceration alone cannot remedy recidivism; treatment must be included in order to break the cycle particularly when the cost of treatment versus

incarceration is considered. Treatment can reduce or control criminal behavior. The criminal justice community must join forces with public health to access those in need of treatment. Adequate levels of funding for treatment resources (and research) should be provided in order to reduce incarceration of offenders who offend primarily because of treatable problems” (2001, n.p.).

These statistics highlight the need for innovative programs that address the root influence –substance abuse – in a large percentage of offenders. Thus, addressing addiction is of benefit not only to the individual suffering with substance abuse but could reduce the wreckage wrought by addiction on all of society.

Policy makers are well aware of the costs of substance abuse and regularly profess interest in finding cost effective ways to reverse the trend. In times of tight government budgets more effective interventions are a priority of lawmakers. One of the ways the criminal justice system has addressed the largesse of cases and backlog in courts due to substance abuse is drug court. Drug court addresses cycle of drug abuse and drug driven crime by pairing traditional probation with intensive substance abuse treatment. The offenders see a judge weekly to keep the court apprised of progress or problems the offender may be having. The value of treatment, considering the savings to taxpayers, the reinvestment of the individual in the community and the lessening of the social burdens of continued substance dependence are clearly worth researching and understanding. One of the greatest burdens on the criminal justice system is re-arrest of offenders. High re-arrest rates increase the need for more prisons, time and money spent by prosecutors and courts and additional victims due to new violations by offenders. Figure 1 depicts the reduced recidivism rates after drug court graduation. The Oklahoma

Department of Mental Health and Substance Abuse Services website (ODMHSAS) (2012) states “re-arrest rates of drug court graduates and standard probationers differ significantly. The re-arrest rate for successful standard probationers is 63% higher than for drug court graduates. Offenders released from the Department of Corrections upon completion of their prison sentence are 4 times more likely to be re-arrested than drug court graduates” (n.p.).



Figure 1. Re-arrest rates (ODMHSAS, 2012).

Drug courts do not only reduce recidivism; they save taxpayers money when compared to the cost of incarcerating offenders. The Oklahoma Department of Mental Health and Substance Abuse Services (2012) indicate: The average annual cost of incarceration in the Oklahoma Department of Corrections is \$19,000 per offender, compared with the average annual per person cost for drug court participation of \$5,000. The decreases in recidivism and cost effectiveness show drug courts to be of great fiscal and social value.

The Sentencing Project, an agency that researches public opinion about criminal justice policy, twelve years ago reported that a majority of American citizens support therapeutic intervention to incarceration for first time non-violent drug offenders. Studies indicated voters were supportive of identifying and implementing alternative sentencing measures and voice “strong commitment to treatment” (Sentencing Project, 1998, p 4). The support for alternative interventions that the Sentencing Project cited over a decade ago continues to this day.

Tulsa County District Court Judge Rebecca Nightengale and Dr. Juanita Ortiz cite recent research that shows Oklahomans across all demographics are in favor of alternative sentencing programs such as drug courts and community sentencing (Graham, 2010). The movement to reform how the system addresses substance abuse crimes is not only a concern at the state level; rather, the federal government is also considering more cost effective and efficient means of dealing with nonviolent drug offenders, as evidenced by, the U.S. Congress’ Domestic Policy Subcommittee hearing on Thursday, July 22, 2010, which discussed interventions to reduce the incarceration of nonviolent offenders and increasing treatment options (Tucker, 2010). The subcommittee heard testimony as to how alternative sentencing reduces recidivism, reduces cost to taxpayers and increases prosocial engagement of offenders.

The ongoing societal costs of substance abuse, the consensus among professionals that incarceration does not solve the problem and public support for treatment over incarceration has resulted in a new collaboration between the courts and treatment agencies. This collaboration teams probation officers, judges and treatment agencies in what is termed “drug courts,” which divert individuals convicted of crimes

related to substance abuse to court-mandated treatment instead of prison. In this way, offenders receive the benefit of supervision and treatment in order to break the cycle of recidivism (National Association of Drug Court Professionals (NADCP), n.d.).

Court Mandated Treatment

Drug court programs are designed to facilitate behavioral change in prison-bound offenders. Such courts have been established in all 50 states (Congressional, 2010), including the three counties in northeast Oklahoma (Creek, Rogers, and Tulsa) on which this study will focus. Offenders who meet criteria to have their case transferred from traditional district court to the drug court docket volunteer for the program. There are three requisite criteria: (1) the commission of the crime must have been influenced by substance abuse, (2) the participant must have received a substance dependence diagnosis according to DSM IV criteria due to a court-ordered assessment, and (3) the participant cannot have a history of violent or sex-related crimes. The drug court team consists of a special drug court judge, probation officers, substance abuse treatment providers and the drug court administration. Participants must adhere to strict requirements, including obtaining a GED if one has not graduated high school, securing gainful employment, avoiding all law enforcement contact, adhering to a curfew, and providing random urinalysis (UA) free of illicit substances. Compliance with these regulations is monitored by the probation officers. The monitored behavioral outcomes of drug court are quantitative and easily measured, though this does not hold true for all aspects of the program.

The treatment component of drug court is supplied by service providers tasked with using outpatient (OP) counseling and case management to facilitate substance abuse

education and investment in behavioral change resulting in self-sustained abstinence from substances and improvement in life skills. However, studies (Miller, Yahne & Tonigan, 2003; Whitten, 2006) are helping to cite outcomes that are not as easy to measure as whether or not a urinalysis is positive or negative for substances. Motivations for change, investment in treatment vs. meeting minimum requirements to advance through the program, and cognitive processes happening during treatment are all important when discussing whether treatment is successful (Prochaska, DiClemente & Norcross, 1992).

Drug courts celebrated twenty years of existence in 2009. With the implementation of drug courts, the criminal justice system is not only a punitive entity but is being used as an intervention in substance abuse and a gateway to recovery. The National Institute on Drug Abuse (NIDA) has shown that court-ordered treatment produces the same success rates as when treatment is begun voluntarily (Whitten, 2006). NIDA reports “men who completed court ordered treatment for alcohol and drug problems reported lower intrinsic motivation at the beginning of treatment” (p.1), yet had higher rates of abstinence and non-problematic alcohol use when looking at one year outcomes. After five years the rates between mandated and voluntary treatment participants were similar when comparing abstinence and remaining free of negative consequences (Whitten, 2006).

The impact of drug courts has continued to grow. The Office of National Drug Control Policy reports over 2200 drug courts in operation across the nation (2010). Drug courts introduced a way for substance abusers in the criminal justice system to access treatment resulting in lower rates of recidivism and increased prosocial behaviors (Belenko, 1998; Cissner & Rempel, 2005; Goldkamp, 2003; Harrell, 2003). The

National Research Advisory Committee explains that drug court programs should be evaluated and processes and measures to increase assessment, engagement and outcomes should be implemented (Heck & Thanner, 2006). As programs will be evaluated on their outcomes, such as termination vs. graduations, research may be used as a tool to ensure programs deliver best practices, and evidenced based methods. This study which develops and evaluates a measure of motivation may be used to assess the effectiveness of Drug Court programs.

Theoretical Framework

The theoretical model that will guide this study is self-determination theory (SDT). SDT sees behaviors and actions along a continuum from amotivation, which indicates no intention to act, to self-determining, which is competent, autonomous and engaged in positive social networks. Shunk, Pintrich and Meece (2008) discuss competence, autonomy and relatedness as “basic innate psychological needs that underlie behavior” (p 248). Self-determination is the ability of one to sustain one’s self by behaviorally meeting one’s needs (Deci, 1980). Competence is described as the desire to be educated and engaged in one’s surroundings. Autonomy refers to the desire to control life decisions and choices, relatedness denotes one seeking positive social interactions (Shunk & Zimmerman, 2006). To be self-determining is to be intrinsically motivated and seeking behaviors supportive of increasing competence, autonomy and relatedness (Shunk et. al. 2008).

Deci et al. (1985) confirm that as one increases self-determination, one’s ability to meet needs, function in society and feel psychologically fit also increases. Studies in educational settings (Vallerand et al., 1993; Vallerand, Blaise & Briere 1989) have found

increased self-determination and motivational style were positively correlated with outcomes such as “effort, positive emotions, psychological adjustment, persistence, learning interest, concentration and satisfaction with one’s academic life” (Vallerand, Blaise & Briere 1989, pg 162). As substance abuse treatment has an educational component and can be described as a learning process investigation into the possibility of these findings being also seen in drug court population is warranted.

Between amotivated and self-determining behaviors regulatory styles, extrinsic and intrinsic motivation, impact what level of competence, autonomy or relatedness one may feel (Ryan & Deci, 2000).when one completes a task to avoid punishment or seek reward they are extrinsically motivated. In drug court participants this may be seen as attending treatment session in order to avoid a sanction for being absent. Conversely, a participant who attends counseling sessions due to personal investment in behavior change one is more intrinsically motivated. The task is completed not to avoid punishment but because of a personal desire to master the skills being taught at the session. One can have both extrinsic and intrinsic reasons during the complex process of behavior change. It is the connectedness of the constructs of autonomy, competence and relatedness with level of extrinsic and intrinsic motivation that makes the study of these constructs together so important in court mandated participants.

The Need for Assessment and Evaluation

The two different aspects of the drug court program, measurable behaviors monitored by probation officers and the dynamic, hard-to-measure concepts of substance abuse treatment, make for an interesting dichotomy in striving for a shared goal of recovery from drug and alcohol abuse for the participant. With court-ordered treatment

to assist individuals in a quest for improved lives, it is imperative to evaluate service delivery systems and the individual participants' experiences and attitudes about what constitutes success, in order to better understand if the drug court mission is really being fulfilled. Drug court professionals believe that effective treatment outcomes are associated with a holistic approach, using multiple entities, to provide comprehensive treatment of the addicted person's psychological, physical, and social problems (NADCP n.d.).

The process of treatment must begin with a comprehensive assessment in order to understand the individual's unique issues and strengths. The Treatment Improvement Protocol 44 (TIP 44) (2005) describes effective assessment as the means by which interventions are determined and modified as part of an ongoing evaluation of an individual's psychological, physical and social problems. Perkinson (2002) concurs by discussing the role of assessment as determining strengths or deficiencies in one's ability to meet one's physical, psychological and social needs. Assessment results are not only beneficial to the client but when implemented properly within the therapeutic relationship can lead to increased understanding and motivation (Miller & Rollinick, 1991; Miller & Soveriegn, 1989; Miller, Leckman, Delaney, & Tinkcom, 1992). Treatment Improvement Protocol 35 (1999) discusses assessing and increasing motivation results in increased client investment, and improved outcomes such as decreased substance use and increased social involvement. Logically it follows that to better understand and treat an individual one must assess motivation and determine if the process of treatment is increasing levels of motivation in predetermined domains.

Drug courts may affect motivation in different ways. Deci and Ryan (1987) report that rewards to engage clients limit self-determining behaviors as do sanctions, deadlines, supervision and evaluation. Although these are clearly a part of the drug court program, the reliance on the limiting actions are decreased as one advances in the program. The program also allows for incentives, increases in personal choices and feedback on progress which Deci and Ryan (1987) report to support the movement toward increased motivation. The creation of an instrument designed to measure motivation in court-mandated clients would benefit the individual and the treatment agencies providing services, and also could increase the effectiveness of the program.

Statement of the Problem

Self-determination theory (SDT) discusses factors that motivate one to action and has been studied in education, which is relevant because substance abuse programs often have an educational component (Shuck, Pintrich & Meece 2008; Vallerand, Pelletier, Blais, Briere, Senecal and Vallieres, 1993; Wigfield & Eccles, 1992) and in health care settings, including alcohol treatment (Reisinger, Bush, Colom, Agar & Battjes 2003; Levesque, C. S., Williams, G. C., Elliot D., Pickering, M. A., Bodenhamer, B., & Finley, P. J 2007; Williams, G. C., Grow, V. M., Freedman, Z., Ryan, R. M., & Deci, E. L. 1996). This theoretical framework is well suited to assess court-mandated clients. The pressure to enter treatment in the beginning is external at a time when many clients will be suffering deficits in competence, autonomy and relatedness. Also the process of treatment should, if successful, increase the levels of SDT constructs.

This researcher has not found any evidence of a SDT instrument designed for use with the court-mandated population. Items designed to apply to the court-mandated

population, and grounded in sound relevant theory, may improve our understanding of the motivation of substance abusers participating in such treatment. McLellan, Lewis, O'Brien and Kleber (2000) believe that addiction is a chronic illness that affects all aspects of a person's life. How one sees that one's own abilities (competence), one's role in the environment (autonomy), and one's social connections (relatedness) are all influenced by their addiction. A motivational scale created to measure competence, autonomy and relatedness along with internal and external regulatory styles may reveal factors that advance understanding of client motivation while in drug court, compliment current assessments and assist in formation of a client's treatment plan. If one explores the motivations of participants in the program, more will be revealed about the investment of the participant and subsequently, benefit the effectiveness of individualized treatment interventions. One way to improve investment, effort and eventually success may be found in examining what a participant learns from the program. What needs are the programs filling besides diversion from incarceration? Could a better assessment of motivation, grounded in SDT, enable participants to better understand how to be successful? The assessment results, when shared with the participant, may increase the participant's understanding of competence, autonomy and relatedness as factors that promote recovery. Increased comprehension may facilitate an increase in the participant's motivation while treatment can modify interventions to meet and support the expressed goals of the drug court program and substance abuse therapy.

Purpose of Study

The purpose of this study was to answer the following research questions. (1) To what extent does the Self-Determining Attitudes of Court Mandated Clients (SDA/CMC)

have an underlying structure that reflects the constructs of competence, autonomy, and relatedness in this sample of drug court participants? (2) To what extent are the scales developed from analysis of the 46 items internally consistent based in this sample of drug court participants? (3) To what extent do scores on the SDA/CMC correlate with scores on the Basic Psychological Needs Survey (BPNS)? (4) To what extent do participant groups that ought to differ in self-determination show expected score differences on the SDA/CMC? In this research question there are multiple variations to examine. A. Do participants nominated by their counselor as high in self-determination score higher on the SDA/CMC than participants who were nominated as exhibiting low self-determination? B. Do Participants in later phases of the drug court program score higher on the SDA/CMC than participants in lower phases of the drug court program? C. Will participants in later phases of the drug court program rate their family relations higher than participants in lower phases of the drug court program? D. Will participants who are employed score higher on the SDA/CMC than those participants who are unemployed?

Included in the current project is an analysis of the psychometric properties of the instrument. As this instrument is newly constructed and has never been administered as a questionnaire, the data was submitted for an item analysis and an exploratory factor analysis to whether the constructs of competence, autonomy, relatedness, intrinsic and extrinsic motivators are identified by the instrument. Theoretically driven group comparisons were conducted using analysis of variance (ANOVA) An existing SDT instrument the Basic Psychological Needs Survey (BPNS) was also administered to the sample of drug court participants and correlations between scales on the newly constructed instrument, the SDA/CMC, and scales on the BPNS examined

Significance of Study

Research into motivation and outcomes will advance the current base of knowledge, help define evidence based modalities and assist in getting the best treatment for the limited available funds. The American College of Physicians suggests that “addiction is a complex behavioral and medical condition with personal, social and biological effects” (“Illegal Drug”, 1998, p 6) and continued research and subsequently applied methods beneficial. NIDA director Nora Volkow believes improvements in outcomes will be a result of research and evaluation of methods when stating “integrated research-practice partnerships necessary to achieve our full potential to relieve the suffering and waste of human life caused by addiction” (2003). Hanson (2002) reiterates that clinicians and researchers working together will facilitate the achievement of a better paradigm within which more creative and successful modalities will be discovered. If an assessment could reveal what motivates a client in treatment, one could better individualize the treatment intervention to more readily engage the client (Miller & Rollnick, 1991; Perkinson, 2002; Prochaska & DiClemente, 1982).

Summary

Research has shown substance abuse treatment to be an effective alternative to incarceration resulting in reduced recidivism, increased employment and less cost to the criminal justice system (Department of Justice, 2006). The criminal justice system is not only a beneficiary of reduced crime but now being used as an intervention is substance abuse and a gateway to recovery. The literature has shown that court-ordered treatment produces the same success rates as when treatment is voluntary (Whitten, 2006). Motivation is a critical variable to assess in order to best understand a client and

implement the appropriate treatment plan and therapeutic interventions. Therefore, there is a need to determine what motivates a client to participate in court-mandated programs. Self-determination theory and intrinsic and extrinsic motivation have been studied in education and substance abuse (Shuck Pintrich & Meece, 2008; Vallerand, Pelletier, Blais, Briere, Senecal and Vallieres, 1993; Wigfield & Eccles, 1992). The population for this study, drug court participants, have not been studied using SDT, but as treatment is an educational process the use of self-determination theory as an assessment measure is theoretically sound to evaluate.

Preview of Remaining Chapters

Chapter 2 reviews the construct of motivation and why it is an important variable to measure in substance abuse treatment. Historically relevant research and current research measuring motivation will be discussed. Self-determination theory will be described and its value in this population detailed. Chapter 3 contains a description of the instrument's construction. This study uses items generated from an unpublished study, client interviews, counselor focus groups and client exit surveys describing why one chooses and stays in the drug court program. The procedure for the administration of the instrument and the methods of statistical and psychometric analysis will be defined. Chapter 4 discusses the results of the statistical and psychometric analysis including reliability and validity analysis. Group comparisons will be made using the newly constructed instrument and the existing self-determination instrument the Basic Psychological Needs Survey Chapter 5 examines if the goals of the study were met, discusses and suggests limitations and implications for the use of SDT in court-mandated

treatment and suggest further research opportunities., such as administering the instrument in alternate populations.

Chapter II

Review of Literature

Contributing Motivational Theories

The theoretical foundation of this study, self-determination theory (SDT), will be discussed at length later, but many theories support the operationalized constructs: competence, autonomy, relatedness, intrinsic motivation and extrinsic motivation. In response to the deterministic views of psychoanalytical theory and behaviorism, Maslow (1954) described motivation as a process of meeting one's physical, psychological and relational needs. This third force of psychology was labeled humanism and focused on the individual's effort toward improving biopsychosocial behaviors and structures. Rogers (1963) suggests that one is born with the desire to achieve. Thus the innate drive for achievement and mastering one's self and one's environment outlined in humanistic psychology is the seed of the constructs of competence and autonomy. Bandura (1969) distinguished between beliefs about outcomes and personal beliefs about ability. Bandura believed motivation could be enhanced by an expectation of reward when a task was completed, such as getting a good grade on an exam. The outcome expectation is that if one were to study hard, then a favorable grade would be received. This motivation is centered in an external reward, the grade, and leads to effort, studying. This process is defined as outcome expectancy belief. Outcome expectancy is therefore similar to SDT's construct of extrinsic motivation, where one completes a task for a reward or to avoid adverse effects. As these attitudes become ingrained, the belief about

outcomes leads to the expectation that effort will result in success or effort does not matter. Expectancy beliefs increase or decrease motivation depending on the individual's expectation. If one feels able and in charge, these feelings of competence and autonomy support the belief that increased effort will result in achievement of a desired goal. On the other hand, if one feels a lack of ability and control of outcomes, this lack of competence and autonomy may result in an inability to engage in the process of attaining the goal even though the goal is desired (Weiner, 1986). This is relevant to the population of this study as any previous failed attempts at behavior change would reinforce this belief of low competence and autonomy. Continued frustration when trying to obtain a goal may result in learned helplessness, a state where one is passive and exhibits little effort as the outcome is not in their control (Shunk, Pintrich and Meece, 2002).

Bandura also discussed a new concept, self-efficacy, which plays a major role when examining what, motivates an individual (Bandura, 1994). He also thought this belief about ability was more internal than outcome expectancy and that understanding one's competence may result in a greater effort when the goal is important to the individual. Bandura stated success that a task is influenced by the individual's level of self-efficacy, which is tied to one's feeling of competence (1994). Because one is increasing understanding of one's ability, Bandura believed self-efficacy supported learning new behaviors and internalizing actions to become more competent (1994).

Achievement goal theory discusses one's drive to master a task. The beliefs about one's ability to meet goals are a cornerstone of competence (Shunk & Zimmerman, 1997). When one feels confident in one's ability to meet daily challenges and adapt to changing situations, one is feeling competent and autonomous. If experiences have

undermined the ability to overcome barriers, a sense of frustration may replace one's sense of self-efficacy. That is, a lack of competence may lead to more helpless and hopeless attitudes. Wigfield and Eccles (2002) agree with the humanistic view when discussing one's self image and personal feelings of competence as an impact on motivation. Although Wigfield et al. conducted research in the classroom, the generalization of the findings in educational research concerning competence and autonomy may be applied to a therapeutic setting, because substance abuse treatment is very much an educational process, which is at the nexus of this study.

When examining autonomy, which has been described as a sense of control over decisions and life course (Shunk, Pintrich & Meece, 2008) locus of control research is an earlier attempt to understand feelings of agency by the individual as a motivating factor. Rotter (1966) described locus of control as one's ability to dictate the course of one's destiny. This sense of control is central to autonomy and is reflected in outcome expectancies where individuals believe actions dictate subsequent outcomes. When one's feelings of control due to understanding the expected outcome of an effort is paired with self-efficacy, where one has confidence in one's ability to master a task, the individual is experiencing competence and autonomy as motivating factors.

Social cognitive theory adds the influence of people, social supports and community assets as factors that have an impact on the individual's motivation (Bandura 1994). Festinger (1954) agreed that we compare ourselves with others and that this evaluation influences motivation. If one expends effort to look good in comparison to others, which Dweck and Leggett (1988) term performance goal orientation, one is aware of and using the wider social system to support or undermine motivation. Increasingly

research is highlighting the need to understand the social aspects of motivation where one's social milieu can determine one's effort toward goals (Covington 2000; Deci and Ryan 2000, Wentzel, 1999). If participating in a self-limiting culture, such as a network of substance abusers, one's chance of breaking free of that lifestyle is not realistic. Alternately during the process of treatment the therapeutic relationship highlights and teaches new prosocial relationships and the client's attempts at behavioral change are supported by these new positive social forces.

Social cognitive theory, expectancy beliefs, goal orientation theory and regulatory style, whether internal or external, have all contributed to the tenets of SDT. The postulates of SDT bring the elements of these previous theories together to study an individual's motivation holistically.

Self Determination Theory

According to self-determination theory (SDT) amotivation is associated with one's perception of an absence of competence, autonomy and relatedness and when one experiences an increase in one's beliefs about one's competence, autonomy and relatedness these new beliefs coincide with an increase in perception of self-determination (Vallerand, Pelletier, Blais, Briere, Sencal & Vallieres, 1993). Self-determination theory discusses factors that motivate one to action. Shuck Pintrich and Meece (2008) suggested that individuals understand their abilities, are aware of the impact of the current environment and determine courses of action to reach goals. According to SDT, this understanding and movement toward action is to fulfill the ego needs: competence, autonomy and relatedness (Deci & Ryan, 1980). SDT implies that motivation is not a single construct but is multidimensional and consists of personal

beliefs about ability and social influences, an implication that is supported in substance abusing populations (Miller, 1995). SDT suggests that when one increases one's competence, autonomy and pro social engagements one becomes less externally regulated and more intrinsically motivated. Individuals who believe they are prepared to engage their environment are controlling their life course and participating in supportive systems of community capital, and are moving toward a self-determined, and subsequently, intrinsically motivated lifestyle (Deci & Ryan, 1980). To be totally extrinsically motivated would mean others are controlling one's choices and compliance to avoid punishment or receive reward would dictate behavior. As one begins to take ownership in decisions, understanding responsibility and accountability, one is internalizing a more prosocial lifestyle. Eventually one sees their actions as having not only consequences, but also identifying traits and elements of their personality. The identification of these traits as part of who one is defines movement toward intrinsic motivation. This movement from externally motivated to intrinsically motivated, when competence, autonomy and relatedness are perceived to be increasing, is summarized in Figure 2.

Motivation for an action can be mixed. An example would be to participate in a substance abuse program to stay out of jail (external) and also because one wants to be a better parent (internal). But Deci and Ryan (2000) believed that to become self-determining there must be an internalization of the reasons why one continues a task. Internalization of the external reason "I want to stay out of jail" could be described as continuing recovery because staying out of jail allows one to be a better citizen. The point is external motivators are not bad and internal motivators good. Both types of motivator

serve purposes, but the movement towards self-determination is supported by a more internalized locus of control and increased beliefs in one's competence, autonomy and relatedness.

		Perceived Control	Perceived Benefits	
High	Levels of constructs Competence Autonomy Relatedness	Internal control	Goals and effort seen as part of individual's identity	Intrinsically Motivated
		Increased personal control	Sees utility value and works toward goals	
		Actions still externally controlled	Gaining approval from others Some increased self-image	Extrinsically motivated
Low	Little or no personal control Externally pressured to act	Gain reward or avoid punishment		
	No movement toward action		Amotivation	

Figure 2. Changes in regulatory style due to changes in perception

SDT suggests individuals have an innate need to better themselves and their environments. SDT proposes that “human beings are active, growth oriented organisms who are naturally inclined toward integration of their psychic elements into a unified sense of self” (Deci & Ryan, 2000, p.229). This integration of self is both personal to the individual and also in a larger social context (Deci & Ryan, 2000). The conclusion is supported historically in cognitive theories which suggest one is born with the drive to master one’s environment (White, 1959).

Motivation in Court-Mandated Clients

Motivation influences whether or not one seeks treatment, but also, once in treatment, the level of effort that will be exhibited and diligence toward finishing a program (Vallerand & Thill 1993). Shunk and Zimmerman (2006) suggest that when one has limited choices and behaviors are externally managed, a result may be an attitude of compliance, not engagement and clients “perceive their actions as a means to an end” (p. 359). It is at this point, of high external pressure, that most individuals enter a drug court program. Participants are coerced into the program to stay out of jail, keep their job or maintain their marriage. According to Shunk et. al. (2008), intrinsic motives are those related to personal choice and pleasure. An example would be playing a musical instrument for pure, personal pleasure with no rewards except the joy of the experience. This would indicate that individuals in a court-mandated program would not be able to exhibit full intrinsic motivation until all programs restraints are removed. As one cannot be deemed intrinsically motivated until one is completely in charge of the choice to remain abstinent, which does not occur until completion of the program, clients would continue to endure external pressures until graduation. Thus, according to SDT, clients

may fall into five categories. An amotivated client would show no effort or engagement in the program. The other four categories describe a continuum from completely externally regulated to a state in which one's beliefs about recovery are integrated into one's self-image, a motivational style that is almost completely internal (Shunk et. al 2008).

Effect of External and Internal Pressure

Court-mandated clients experience the external pressures of the legal system, which voluntary treatment seekers may not, which is an important variable to study when examining client motivation. If a client's motivation is external, as it is for many court-ordered participants, navigation through the program can become the immediate goal. Reisinger et al. (2003) defined navigation as "the process by which clients determine necessary requirements for attaining program completion, complying with those requirements with as little commitment as possible" (p. 783). This behavior is completely extrinsically regulated with others, not the client, determining course of action. On the other hand, investment of one's efforts toward behavior change would include long term goals, motivation and active participation. Reisinger et al. found that engagement in the treatment process and behavior change require a participant who is committed, participative, internalizing treatment concepts and motivated. Reisinger et al.'s description of motivation levels being divided into investment verses navigation is relevant when looking at drug court client motivation. On one hand, navigation, which is comparable to a participant being completely externally regulated, allowing the Court requirements to dictate behavior. At the other end of the spectrum is engagement, which is similar to internal regulation, whereby one accepts the new lifestyle as one's own and

freely chooses a rewarding pattern of behavior. Reisinger and colleagues' depiction of navigation and engagement as motivational styles has support in other research outlined below.

Marston (1928) suggested that one's reactions to a system will be active or passive depending on one's attitude toward that system. Therefore if one perceives program rules as controlling the outcome of one's behavior, that client is extrinsically motivated. Conversely, if one is invested in one's therapy and behavior change and uses the program as a framework within which one chooses and applies strategies, the impetus for change is not the program itself, but more intrinsic to the person and personal desire to change. Douglas McGregor (1987) outlined two types of motivation-Theory X and Theory Y, which are complimentary to the descriptions of Reisinger et al. Theory X is similar to navigation and suggests some individuals resist change and put the minimum required effort into meeting program expectation. On the other hand, Theory Y describes individuals who are problem solvers and achievers who enjoy the challenges of the program (Heil, Bennis and Stevens, 2000).

Motivation theory examines why an individual attempts a behavior and intensity of the effort exhibited. Behavior can be initiated for external reasons, pressure from a spouse or employer. In the case of court-mandated clients the external pressure comes from the legal system and the overt threat of incarceration. Deci and Ryan (1985) have documented that continued external pressures are correlated to un-sustained behaviors. In research examining cessation of substance use, Curry, Wagner and Grothaus (1990) found when one has only high extrinsic motivation the outcome was positively correlated with continued use of the substance.

The effects of one's perception on the environment are also supported by control expectancy beliefs. Individuals who perceive more control over their environment are more effective in regulating both physical and emotional activities (Glass & Singer, 1972; Solomon & Metcalf, 1978). Deci and Ryan (1987) acknowledged the effect of control expectancy when discussing the benefit of allowing a client choice (control) to increase self-determining behaviors. Due to the variable nature of motivation based on the client and the environment, programs such as drug court begin with heavy external pressure and through the process of treatment increase intrinsic motivation to support lifestyle change. As the client moves through the program, choices are increased and clients can internalize behaviors. This increase in the intrinsic value of the behavior predicts increased success (Ryan, 1995).

Regulatory Styles

Extrinsic and intrinsic motivation, also denoted as regulatory styles, lie along a continuum beginning with amotivated, which describes a condition where individuals do not act on a goal. Clients who exhibit an amotivational style would do little to forward their treatment plan or put effort into the program. This client would not recognize the utility of changing behavior and feel the outcome of treatment was controlled by others. Amotivation would be an absence of self-determining behaviors and although important to understand theoretically it will not be measured by the proposed instrument. Extrinsic motivation is comprised of four levels, each increasing in internalization of the behavior, which are to one degree or another externally influenced. Deci et. al. (1980) discuss *external regulation* as behaviors initiated to gain incentives or avoid sanctions. One may recall the carrot or the stick analogy, whereby compliance is dependent on external

factors, not insight or desire. The next level Deci et al. describe is *interjected regulation*. This regulatory style is influenced by feelings experienced subsequent to the completion or avoidance of the task. If the task is completed, the participant may feel pride because the probation officer applauded the effort. Conversely, the participant might feel shame due to being admonished by the judge for not completing a required task (Shunk et al. 2008). As these motivators, pride or shame, are personal, this level moves from totally external to somewhat external, although Shank et.al (2008) pointed out the behaviors are not completed of one's own choice but because of others, such as the judge, counselor or probation officer would disapprove otherwise.

Identified regulation discusses an increase in the internalization process. The behavior is sustained because the client sees it as important to oneself and to success. Wigfield & Eccles (1992) would describe this as utility value; the behavior is sustained because of its benefit. In substance abuse therapy, sustained abstinence in order to improve one's life, job or relationship may, many times, be an important goal and the process of increasing motivation may stop here. One problem with identified regulation could be that when one loses a job or gets divorced, the reason for abstinence has also been removed.

The final extrinsic regulatory style Deci and Ryan describe is *integrated regulation*. As the name implies, one integrates the behavior into their personal view of who they are. One abstains from substances because they want to be a person in recovery. Clients see recovery as a part of themselves, which makes it the most internal of the extrinsically motivated styles. As previously discussed, due to the nature of the drug court program, one could argue a truly autotelic experience in which behaviors

completed in and of themselves with no other purpose other than the enjoyment of the behavior may not be possible. For these reasons, this study will address assessing the four previously discussed motivational styles: external regulation, introjection, identification and integration. External regulation and introjection are not self-determining in nature and are mostly externally controlled while identification and integration are considered self-determining and more intrinsic in nature (Ryan & Deci, 2002). Therefore, for the purpose of this study the regulatory styles externally regulated and interjected will be assigned the designation extrinsically motivated while identification and integrated will be labeled intrinsically motivated (Deci et al., 1985).

Proper assessment of these constructs will help clinicians intervene in self-destructive behaviors through understanding the individual's motivational style and implementing individualized interventions.

Assessment

In substance abuse treatment, there are so many assessments that it would be infeasible to cover them all in this review. The assessments discussed are routinely used in substance abuse treatment and have been established as an instrument of choice for intakes into program known to the researcher. A discussion of the importance of assessment follows.

Assessing motivation is a key component of substance abuse therapy (Simoneau & Bergeron 2003). Prochaska and DiClemente (1982) developed a five-stage model of motivation, pre-contemplation, contemplation, preparation, action and maintenance that is supported in substance abuse research literature (Bergeron, Landry, Brochu & Cournoyer 1997; DiClemente & Hughes 1990). This model does not discuss what needs

are being fulfilled by the process of treatment; rather, it only describes what stage a person is in when exhibiting criterion behaviors. The Circumstances, Motivation, Readiness and suitability Scale (CMRS) evaluates one's reasons for entering treatment, one's beliefs about the need for treatment and appropriateness of current level of care (DeLeon, Melnick & Kressel, 1994). The CMRS is valuable for a self-reported rating of the overall need for treatment and if the client feels that current need is being met. Neither the five-step model of motivation or CRMS examines levels of personal motivation.

There are self-determination assessments that have been used in clinical settings. The General Causality Orientation Scale (Deci & Ryan, 1987) has been used in research on eating disorders (Strausse & Ryan, 1998). The Treatment Self-Regulation Questionnaire (Ryan and Connell 1989) has been established in health care settings (Levesque, Williams, Elliot, Pickering, Bodenhamer & Finley, 2007) and has been modified for use in alcohol treatment (Ryan, Plant, & O'Malley, 1995). Although nicotine and alcohol specific questions are included, other substances, such as marijuana, methamphetamine and prescription medications, are absent. There also exists a noticeable lack of self-determination assessments for the court-mandated population.

Motivation is what determines effort and compliance to a treatment plan and eventually long-term behavioral change (DiClemente, Bellino, & Neavins, 1999). If motivation is a primary consideration in long term outcomes, finding ways to best measure and use the information is paramount. Conversely, if one is amotivated, the chance for successful intervention and abstinence from self-defeating behaviors is nearly nonexistent (Ryan, Plant, & O'Malley 1995). Thus determining what motivates a client

is important and may allow for increased investment. But motivation is not static. Miller & Sanchez (1994) believe that motivation waxes and wanes due to the processes of treatment and the individuals involved in the treatment experience. Simoneau and Bergeron (2003) support this view and believe the “setting and people one interacts with both affect motivation” (p. 1220). Following these assumptions, Yahne and Miller (1999) agreed that motivation levels should change over the treatment period resulting in differences in assessment over time, and supports the SDT premise that motivation should change with the onset of treatment and that the motivation of the client has both a personal and social context. Assessment and treatment plan revision are an ongoing process and an instrument that examines a client’s current beliefs about one’s personal abilities and social supports along with regulatory style, internal or external, would not only be a comprehensive description at that point in time, but could be re-administered to examine changes due to the treatment process. Such reasoning makes self-determination theory well suited for the construction of a motivational instrument.

Summary

Chapter II reviewed the historical and theoretical underpinnings of SDT and assessment. The SDT constructs of competence, autonomy, and relatedness, intrinsic and extrinsic motivation were operationalized. The influence of the criminal justice system and specific consideration of court-mandated treatment were examined. Finally, the effects of external and internal pressures were summed up. With a clear understanding of what elements of motivation, according to SDT, are relevant to measure and assess and the need for research in the court-mandated population a discussion of the method for this study follows.

Chapter III: Methods

This chapter describes the participants and method of recruitment. A discussion of the process of data collection, including demographic survey, will follow. How the psychometric evaluation of the instrument will proceed shall be described. A description of development of the instrument and the theoretical structure of the instrument will be included. Finally, the procedures for the analysis of the data are examined.

Participants

Participants in three drug court programs in northeast Oklahoma were sampled and invited to participate in the study. The researcher contacted the clinical directors of agencies that provide substance abuse counseling for the court, set up a meeting and discussed the project in order to gain permission to access the agency's participants. Each agency provided this researcher with a letter permitting access to the agency's clients (see Appendix B). Approval for the study was obtained by the OSU Institutional Review (see Appendix C). In order to survey participants in all phases of the program, the researcher attended group therapy sessions on multiple evenings and times. The sample was a volunteer sample and data collection occurred during regularly scheduled group therapy sessions for those who agreed to participate. Potential participants were given the Participant Information Sheet (see Appendix D) and the study was explained to them. The fact that participation was voluntary, and no adverse consequences or repercussions would result for non-participation, was reiterated. If the group member agreed to participate, they remained in the group session and received the instrument. Any group

member unwilling to participate went with a counselor to a separate room to begin a therapeutic exercise. The researcher administered the instrument using a researcher's script. In addition, the participants completed a demographic survey.

Demographics

The demographic survey, included in the SDA/CMC (see Appendix E), contains questions about gender, age, length of time in the program and other information about the participant to describe the sample. There is no sensitive or protected information in the demographic survey, nor are there identifiers on any of the study materials and no means of connecting an individual to a specific survey or demographic responses. The aggregate data for demographics is reported in Chapter 4.

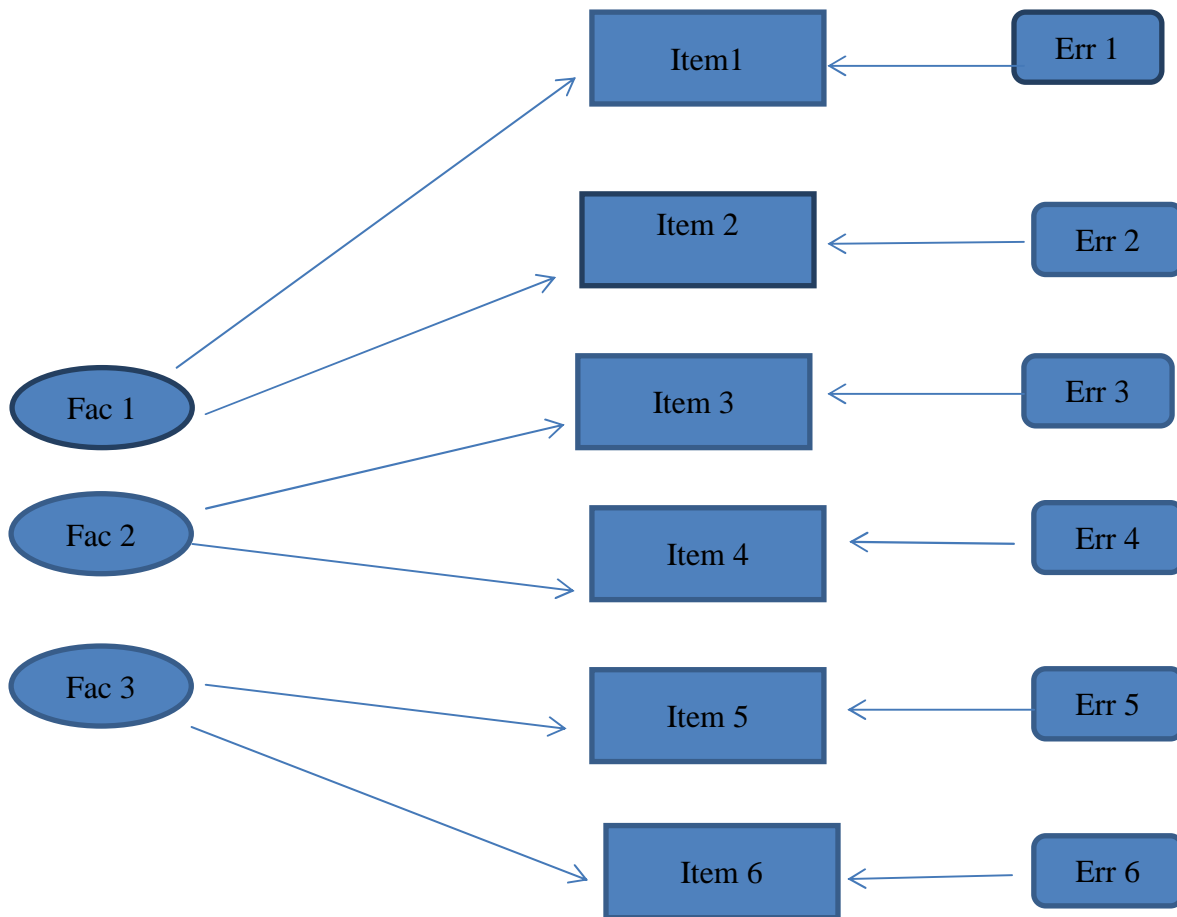
Research Question One: Factor Analysis

Research question number one is to what extent does the Self-Determining Attitudes of Court Mandated Clients (SDA/CMC) have an underlying structure that reflects the constructs of competence, autonomy, and relatedness in this sample of drug court participants? In order to examine and understand the dimensionality of the SDA/CMC, item analysis of the subscales were conducted. Item analysis was conducted to see if the items in each subscale were correlated and described the latent variables, competence, autonomy and relatedness along with extrinsic and intrinsic motivation. The corrected item correlations are reported in the Results section. Following item analysis an exploratory factor analysis was conducted on the complete set of items contained in the SDA-CMC to examine the factor structure of the entire instrument. This was implemented to answer research question two is to what extent are the scales developed

from analysis of the 46 items internally consistent based in this sample of drug court participants?. A three factor model with six items is shown below in Figure 3.

Figure 3.

Common Factor Model



An Exploratory Factor Analysis (EFA) “determined how many factors are present, whether the factors are correlated or not” and assisted in naming the factors (Stevens, 2002, p 386). In this study the factors should describe the operational constructs of SDT. By conducting an EFA greater understanding of the dimensionality of

the instrument was facilitated. When conducting EFA it is imperative to have enough respondents. For this study 410 participants were surveyed. The EFA grouped the instrument items into latent variables (Shultz & Whitney, 2005). The number of factors to extract were not be set a priori but were analyzed using multiple methods. Factors with eigenvalues greater than 1.0 were extracted and the structure analyzed. Also the scree plot was examined with all factors above the elbow or where the scree line flattened were extracted and the structure analyzed. A forced number of factors guided by theory was examined. Rotation of the factors was accomplished with Direct Obliman, as the factors were hypothesized to be correlated, for “transformation into a more interpretable form” (Shultz & Whitney 2005, p 115).

Research Question Two: Reliability

Reliability testing was performed answer research question two ”to what extent are the scales developed from analysis of the 46 items internally consistent based in this sample of drug court participants? Emerging subscales were examined for reliability using coefficient alpha. For the SDA/CMC scale, the first psychometric concern is internal consistency of the scale. Do the items consistently measure the same construct? An examination of the coefficient Alpha (α) was conducted. To compute alpha, the following equation is applied: $\alpha = K/K - 1 (1 - \sum \sigma^2 i / \sigma^2 x)$. In this equation K = numbers of items on the scale, $\sigma^2 i$ is variance of item i and $\sigma^2 x$ is variance of the test. Since α is a function of K, as one increases the number of items on the scale α will increase as long as interitem covariances remain positive. But for psychological measures such as the SDA/CMC a longer, more unwieldy instrument may not be beneficial. A large number of items on a scale could result in fatigue or disinterest in the respondents and thus

increase error; therefore, a more concise scale was preferred. To limit the length of the scale, corrected item-total correlations were examined and low or non-contributing items were dropped, thus increasing the α of the remaining items. Reliability was examined for all subscales.

Research Question Three: Convergent Validity

Research question three, “to what extent do scores on the SDA/CMC correlate with scores on the Basic Psychological Needs Survey (BPNS)?” will be addressed by assessing convergent validity. To examine if the SDA/CMC did in fact measure the construct of competence autonomy and relatedness, test scores on the SDA/CMC were correlated with test scores on the Basic Psychological Need Survey (BPNS)(see Appendix F). The BPNS has been used and evaluated in research (Deci & Ryan, 2000; Deci, Ryan, Gagné, Leone, Usunov & Kornazheva, 2001; La Guardia, Ryan, Couchman & Deci, 2000; Ilardi Leone, Kasser & Ryan, 1993) and if the SDA/CMC measured the same SDT as the BPNS constructs the two instruments’ scores would be positively correlated. Examining the relationship between a newly created instrument and an existing validated instrument is termed convergent validity. The basic form of the BPNS was used for this study. Examining criterion and convergent validity have been determined as important measures to take in order to verify overall construct validity of an instrument (Cronbach & Meehl, 1955).

Research Question Four: Criterion Related Validity

Research question four asks, “to what extent do participant groups that ought to differ in self-determination show expected score differences on the SDA/CMC?” In this research question one area to examine is whether participants nominated by their

counselor as high in self-determination score higher on the SDA/CMC than participants who were nominated as exhibiting low self-determination? The analysis of variance conducted to examine any differences will also be evaluated as evidence of criterion related validity.

Criterion-related validity can be either predictive or concurrent. The method of criterion-related validity is designed to correlate the instrument scores with external criteria (Sax, 1997). One may examine the relationship of the instrument to a criterion concurrently or at the same time. In concurrent validity analysis, scale scores can be correlated to the criteria at or about the same time. The concurrent method has the benefit of being less time-consuming, but care must be taken to ensure the comparison of scale scores and criterion are relevant (Shultz & Whitney, 2005).

For this study's purposes, concurrent methods were employed in the following manner. The researcher contacted each treatment agency at least two weeks prior to the scheduled time of administration of the SDA/CMC. The constructs of SDT were discussed and operationalized for the agency counselors. A request was forwarded that the agency's treatment team examine the roster for each group therapy session. The treatment team then identified and nominated group participants struggling with self-determining attitudes and behaviors and clients who, in their opinion, exhibited high levels of self-determination. At the time the instrument was completed, the envelopes that contained the response sheets were marked by the counselor with either a red mark, indicating low levels of self-determination or a green mark denoting high levels of self-determination. These dots were unobtrusive but identified to the researcher the response sheets to use for criterion related analysis. In this manner the researcher did not associate

the response sheets with any particular client. The counselors were instructed to only mark the individuals who best fit the operational definition of self-determination; that is, the extremes of the participants. The procedure was repeated at all scale administration sessions providing a sample for concurrent criterion related analysis.

Other group comparisons were conducted to address other implications of research question four, such as do participants in later phases of the drug court program score higher on the SDA/CMC than participants in lower phases of the drug court program? Will participants in later phases of the drug court program rate their family relations higher than participants in lower phases of the drug court program? Employment may support increases in self-determination by increasing competence, autonomy and relatedness. Therefore, will participants who are employed score higher on the SDA/CMC than those participants who are unemployed? Analysis of variance will compare the means of these identified groups on the dependent variables of scale scores and family relations scores to evaluate the SDA/CMC's ability to detect differences between these groups.

Instrumentation

Preliminary Instrument Development

In an unpublished study this researcher examined motivational styles of court-mandated clients using Spranger's (1928) Types of Men. Each of us has ingrained attitudes that drive efforts and push persons to act or to experience apathy. These value-clusters are the lens of our worldview, which influences motivational style; subsequently these internal value-clusters are the basis of motivation and subsequent behavior (Spranger, 1966). Table 1 summarizes Spranger's motivational attitudes.

Table 1

Spranger's Motivational Attitudes

Motivator	Seeks
Theoretical	Knowledge and understanding
Utilitarian	Security
Aesthetic	Creative and unique experiences
Social	Connection with others
Traditional	Order and meaning of life
Leadership	Personal influence and power

Six statements were generated for each style of motivator in a focus group with five Master's level counselors. Of the six statements per style, three were engaged statements and three were navigating through the program statements. The 36 statements are included in Appendix A. The participants (N=34) sorted the cards according to a researcher's script which instructs the participants in how to complete the sorting exercise. The participants first sorted the 36 statements into 3 piles: very much like myself or how I feel, very much unlike me or how I feel and a pile that the client did not have strong feelings either way. Then clients were asked to sort the statements on a 9-point forced distribution continuum ranging from "most unlike" to "most like" in response to the question, "How do you feel about your drug court experience?" and recorded their results on the report form. The sorts were analyzed using factor analysis, which produced a 3 factor solution. After interpretation, the factors were labeled *traditionally motivated, autonomously motivated and socially motivated*. Colleagues with whom I shared these results remarked on the similarities between these factors and the

constructs of motivation according to self-determination theory (SDT). Further discussion and reading confirmed that the Q factor, *traditionally motivated*, so named because traditional substance abuse treatment is about education and increasing one's ability to overcome life barriers, was very complimentary to the SDT construct *competence*. Traditional substance abuse models increase personal competence through education about one's disorder and life skills training.

The second Q factor had the same label, *autonomously motivated*, as the SDT construct and revealed very similar descriptions. The clients whose Q sorts described taking action to control one's life and recovery are autonomously motivated. These clients see recovery and the path to rebuilding their future as in their hands achievable by effort. This belief in personal will is reflected in the number of statements describing active effort and engagement in the system used to describe themselves and their experience. The sense of personal agency and control of one's choices is also at the core of SDT's construct autonomy (Deci & Ryan, 1980).

The Q study factor *socially motivated* correlates with SDT's construct *relatedness*. As the names, *socially motivated* and *relatedness*, imply, both the Q study factor and SDT construct propose that clients need others to assist in their journey to recovery. Socially motivated clients want to repair their support systems, personal relations and themselves while building new friendships to support change. SDT suggests that positive relationships increase one's ability to lead a self-determined life (Deci & Ryan, 1980).

SDT also suggests one's motivation may be either internal to the person or externally regulated, or a combination of both (Deci & Ryan, 1985). In the drug court

program, a law enforcement entity, probation, works with a substance abuse treatment provider to assess and increase investment in recovery and facilitate the interpersonal negotiation of goals. It is paramount that agencies, probation and treatment, which have traditionally operated under different philosophies, now complement each other to facilitate behavioral change. If a client's motivation is external, as it is with many court ordered participants just entering the program, navigation through the program can become the immediate goal. Reisinger, Bush, Colom, Agar & Battjes (2003) studied the impact of external pressures on attitudes and behaviors in traditional treatment program clients. They believe navigation through the program results from a client being externally controlled through requirements and rules such as curfews and the coerced nature through which clients are mandated to treatment (2003). But as motivation is a mixture of internal and external pressures the authors also suggest investment in the process is increased when one begins to take charge of choices and accept responsibility for actions. These conclusions are supported by SDT, wherein individuals who are moved solely by extrinsic motivators experience lower levels of self-determination as measured in the constructs competence, autonomy and relatedness. SDT continues to support the beliefs of Reisinger et al. that as one's motivation becomes more internalized, one experiences an increase in competence, autonomy and relatedness (Deci and Ryan, 1985).

Development of the Current Instrument

The creation of items for the SDA/CMC began in focus groups facilitated by this researcher. During these focus groups, five master's level counselors sat at a table and developed three groups of statements corresponding with competence autonomy and relatedness. A copy of the Basic Psychological Needs Survey (BPNS) served as an

example of how items might be worded. Members of the focus group were cautioned to not use any of the BNA items verbatim. Also available were 30 items created by this researcher from sessions with clients discussing experiences in the program. An example of a client-generated item was “No matter what I do, it is not enough for those people.” That item was not used verbatim but the essence was contained in an item worded “The program requirements are too hard.” After approximately 30 minutes of writing items, each group was examined separately. If the item described the construct, it was set aside. The focus group went through each item seeking consensus if the item described the construct. Items were consolidated if the item was similar to another item in the grouping. Next, the items were examined and consensus sought on the wording of a statement that was unique and described the construct under examination. Each construct followed the same pattern. At the end of the sorting, the group decided on 36 statements: 12 for autonomy, 12 for competence and 12 for relatedness. These 36 statements were delivered to five different master level counselors that were not in the focus group. The clinicians were asked to sort the statements into different piles denoting the constructs’ competence, autonomy and relatedness. All five counselors sorted 100% of the relatedness items in the relatedness pile. Three counselors sorted two competence items into the autonomy pile and after some discussion wording on the items were changed be more clearly describing competence. An example of an original competence item “I will complete the program” was changed to “I am confident I will succeed,” as success was regarded as more of a competence issue. In this way, the 36 original items were finalized. A discussion ensued about a high external, high relatedness items for the population. High familial support is often observed in the therapeutic setting and would be a construct of interest. Two family

items were added after a discussion of the importance of social support for a total of 38 items. In this way, statements that define the constructs competence, autonomy and relatedness became the items on the SDA/CMC.

After the meaning of regulatory styles was discussed, four intrinsic motivation statements and four extrinsic motivation statements were added for a total 46 statements to be included on the new instrument. As a result, the sorting and discussions could be seen as a construct validity exercise. The completed SDA/CMC survey is included in the Appendix E. The BPNS, also included in the appendices (see Appendix F), did not contain items that strictly describe intrinsic or extrinsic motivation.

Scale Items

Items were generated in a process that started with a Q study completed in the spring of 2009 at Oklahoma State University and as outlined in the Construct Validity section of this study.

Items for Subscale 1: Competence

1. I am reaching my potential
2. I have self-worth
3. I feel a sense of accomplishment
4. I do a good job of coping with problems
5. I am confident I will succeed
6. I have a plan and make it work
7. When things go wrong I feel like quitting
8. Even when I try hard, an obstacle keeps me from succeeding
9. I want others to fix my problems

10. I feel the system keeps me down
11. The program requirements are too hard
12. If I fail it is because of how the program is set up

This subscale, as all subscales of the SDA/CMC, contained both positively and negatively worded statements. The positively worded statements describe high levels of the construct. The negatively worded items describe low levels of the construct and were reverse coded during analysis. These items describe one's belief in one's ability to be self-efficacious and competent. Individuals high in this subscale would foresee success as due to their effort and desire for change. These individuals will want to not only understand recovery but apply new knowledge to resolve problems and move toward their vision of ideal self. Scoring low on this subscale would describe an individual who sees external forces as the major influence in one's ability to succeed or believes the program, people or situations interfere with one's ability to make progress

Items for Subscale 2: Autonomy

1. I lead by example
2. I determine what happens in my life
3. My effort overcomes obstacles in the program
4. I am in control of my life
5. I, not the program, determine my choices
6. The way I lead my life shows my good qualities
7. I have to follow others orders to succeed.
8. My life is at the mercy of others
9. Drug court controls my life

10. I do this program to stay out of jail
11. I do not control my life or decisions because of program rules
12. All the rules keep me down

These items measure one's ability to guide one's life through choice, free will and effort. These items describe locus of control and desire to act in a way that determines the outcome of therapy. Individuals who score low on this scale see little control over their destiny. Low autonomy describes external forces as controlling outcomes

Items for Subscale 3: Relatedness

1. I am meeting new people who I enjoy
2. I feel very connected to some of the counselors
3. I have a sponsor or a 12-step home group
4. I feel equal to others in the program
5. I enjoy going to work
6. My group members understand me
7. Many times I feel out of place
8. I do not relate to people in group
9. Most people do not understand my situation
10. Other make me feel inferior
11. When I have a job it is not satisfying
12. I see old friends even though I can't use with them
13. My family has confidence in me
14. The people I love are my major motivation

These items are descriptions of being related to other persons or groups. Individuals who score high in this subscale see relationships as supportive of successful behavior change. Individuals who score low on this subscale would be feeling marginalized and misunderstood. They do not see value in the relationships to therapeutic interventions such as groups or individual counseling.

Subscale 4: Extrinsic Motivation

1. Getting good reports from my counselor is important to me
2. I feel drug court incentives, movie tickets, gift certificates, etc. are important to me.
3. Getting praised for my hard work makes me want to try harder.
4. Recognition by the court is important to me.

These items describe external reinforcers currently in use in the drug court program. If one scored high in this subscale external, rewards are important to them.

Subscale 5: Intrinsic Motivation

1. I feel overcoming the obstacles drug court presents is good for my recovery.
2. Learning new things even when hard motivates me.
3. Learning to meet drug court requirements gives me pride
4. Overcoming challenges while in drug court motivates me

These items describe an intrinsic reward for accomplishment and effort. Participants who scored high on this subscale have internalized motivation and see success as a challenge and mastery of behaviors that lead to recovery as the goal.

Summary

Chapter III discussed the recruitment of the participants and how the instrument was administered. The analysis of the instrument included an evaluation of the psychometric properties of reliability and validity. The psychometric analysis also assisted in creating a succinct instrument while retaining the power to measure the constructs. An investigation into the reliability of the items and subscales determined what adjustments or additions were made to the items of the scale. Validity analysis also assisted in understanding the instrument's ability to measure motivation. An exploratory factor analysis was conducted to examine the instrument for its ability to measure the constructs of SDT. By evaluating the factors structures, the underlying constructs the instrument is measuring were revealed.

Chapter IV

Results

In this chapter the results of the study will be presented. The demographic characteristics of the sample will be described and compared to state-wide averages in Oklahoma. The results of an Exploratory Factor Analysis will be presented. An examination of the psychometric properties, which include reliability and validity tests, will follow. Finally, significant group comparisons will be reviewed.

The researcher approached 410 individuals participating in three northeast Oklahoma drug courts at the agencies where the individuals were receiving substance abuse counseling. Of these 410 individuals, 89 declined to complete the survey after receiving the Participant Information Sheet, which described the study. This resulted in a participation rate of 78% among those individuals approached to participate. The high participation rate may be attributed to several factors. One, since these individuals are in a court-mandated program, even though it was explained by the researcher and the Participant Information Sheet that there would be no adverse consequences for not participating, individuals may have perceived possible benefits from participating or may have worried that refusal could be detrimental to their treatment. Two, the counselor introduced the researcher, and consequently individuals may have viewed the survey as an exercise pertinent to their treatment regimen. Lastly, the researcher remained in the room while participants completed the survey and the researcher's presence may have

influenced participation. When data entry commenced, 18 surveys, or 5.6% of the 321 collected, were incomplete. Incomplete surveys were excluded from the data that is this researcher did not enter surveys with missing scale data rather than using any imputation procedures. This resulted in a total of 303 valid cases for analysis.

The target population for the study was four northeast Oklahoma drug courts. As one court declined to participate, the accessible population was one urban court and two rural court programs. The sampling procedure consisted of approaching individual already attending group therapy. The study relied on volunteers in these existing groups. No incentive was offered by either the researcher or the agency. The total sample was 303 of approximately 770 active clients in the three courts, which represents 39.4% of the accessible population. The participants not surveyed included those who declined to participate and participants currently in jail or inpatient treatment.

Additionally if a participant was not in group for any reason at the time the survey was administered, no follow up procedure was in place to invite the absent participants to complete the survey. Follow up procedures would have allowed for an even greater percentage of the accessible population to be surveyed but would have also exacerbated the time constraint, which is discussed in detail in the “Limitations” section of this study.

Demographic Characteristics

All data used to compare State of Oklahoma statistics to the sample data were obtained from the Oklahoma Department of Mental Health and Substance Abuse Services (ODMHSAS) website. The comparison of sample data to ODMHSAS was completed to examine representativeness of the sample. Many categories were similar, such as, Gender, Age and Ethnicity. Other demographics deviated from the statewide

averages. Examples of these categories were level of education and marital status. This researcher also collected different data categories than ODMHSAS. Mirroring the categories collected by ODMHSAS would allow for better comparisons and ability to analyze representativeness. A discussion of sample demographics and tables summarizing the data are found in Appendix G.

Research Question One: Item Analysis

In order to answer the first research question for this study, (1) “To what extent does the SDA/CMC have an underlying structure that reflects the constructs of competence, autonomy, and relatedness in this sample of drug court participants?” the first step was to conduct an item analysis on the items for each theoretical subscale of the SDA/CMC. Item analysis showed that competence, autonomy and relatedness were not present as separate, unidimensional subscales. The range of item/total correlations and squared multiple correlations provided no support for the theoretical constructs. Alpha coefficients for the theoretically based scales ranged from .08 to .21 indicating extreme heterogeneity among items. These results are presented in Table 2.

Table 2

Item analysis for SDA/CMC theoretical subscales

Item analysis on the competence subscale for the SDA/CMC

Cronbach's alpha =.08

Item	Item-total correlation	Squared multiple correlation
------	---------------------------	---------------------------------

Reaching potential	-.053	.466
Things go wrong I feel like quitting	-.038	.159
I have self worth	.033	.432
I feel a sense of accomplishment	-.088	.614
I found other to fix my problems	.046	.131
The system keeps me down	-.014	.566
Confident I will succeed	.020	.249
Program is too hard	.068	.171
Have plan and make it work	.071	.338
If I fail it is because of the program	.030	.521
When I try hard obstacles keep me from succeeding	.139	.397
I do a good job of coping	.058	.300

Item analysis on the autonomy subscale for the SDA/CMC

Cronbach's alpha =.13

Item	Item-total	Squared multiple
------	------------	------------------

	correlation	correlation
Lead by example	.206	.336
I have to follow others orders to succeed	-.068	.280
I determine what happens in my life	-.086	.643
My life is at the mercy of others	-.077	.480
My effort overcomes obstacles in the program	.121	.180
Drug Court determines my schedule	.098	.399
I am in control of my life	-.115	.629
I, not the program, determine my choices	-.023	.373
I do not control my life decisions because of program rules	.084	.135
All the rules keep me down	.059	.294
The way I lead my life shows my good qualities	.171	.206
I do this program to stay	.222	.196

out of jail

Item analysis on the relatedness subscale for the SDA/CMC

Cronbach's alpha = .21

Item	Item-total correlation	Squared multiple correlation
I am meeting new people who I enjoy	.107	.475
Many Times I feel out of place	-.087	.322
My family has confidence in me	-.007	.494
I feel very connected to some of the counselors	.297	.378
I have a sponsor or 12 step home group	.138	.262
Most people do not understand my situation	.026	.161
I feel I am equal to others in the program	.122	.170
At times others make me feel inferior	.079	.328
I enjoy going to work	.125	.316

My group members understand me	.308	.264
I see old friends even though I cannot use with them	-.025	.200
I do not relate to people in group	-.148	.380
People I love are my major motivation	-.025	.200
When I have a job it is not satisfying	-.148	.380

The initial reliabilities for all subscales were unacceptable low. The Cronbach's alpha ranged from a low of .08 observed for the competence items to an unacceptable high of .21 on the relatedness items. The squared multiple correlations for the items on each subscale were examined and items with the lowest correlations removed from the analysis and reliability analysis was then re-conducted. The internal consistency of the theoretical subscale items never improved to any acceptable level. Item analysis indicated that the theoretical subscales of competence, autonomy, and relatedness were absent. Unidimensionality of the subscales could not be forced by deleting items with low item-total correlations. Enders and Bandalos (1999) found that scale reliability was reduced when scale items had different distributional shapes and when inter-item correlations were low. However, the skewness and kurtosis values found in the current study were

well below the values used by Enders and Bandalos to identify differentially shaped item distributions. The inter-item correlations however were extremely low. For the competence the mean inter-item correlation was .03. The inter-item correlation for the autonomy subscale was .00. When examining the relatedness subscale the inter-item correlations was .05. The inter-item correlations were a mixture of moderately positive and negative correlations. The items were keyed in the theoretically implied direction which suggests an unusual feature of the sample. Therefore, the low reliabilities on the initial SDA/CMC scales were not due to the distributional characteristics of the items but due to extreme heterogeneity. This could indicate the items were poorly written and did not adequately describe the constructs in this sample or could indicate some unusual feature of the sample. To check the assertion of poorly written items an evaluation of the BPNS subscales, an instrument that has been tested and professed to have adequate reliability for the three theoretical subscales, was conducted to evaluate the unidimensionality of the subscales. Again the theoretical structure of the instrument was not supported in this sample. Results of the item analysis for the BPNS are presented in Table 3

Table 3

Item analysis for BPNS theoretical subscales

Item analysis for the competence items on the BPNS

Cronbach's alpha= -.07

Item	Item-total correlation	Squared multiple correlation
------	---------------------------	---------------------------------

Often I do not feel competent	-.013	.416
People tell me I am good at what I do	-.072	.219
I have learned new and interesting skills	.086	.307
Most days I feel a sense of accomplishment	-.158	.491
I do not get much chance to show how I can do things	.039	.161
I often not feel capable	-.027	.413

Item analysis for the autonomy items on the BPNS

Cronbach's alpha = -.11

Item	Item-total correlation	Squared multiple correlation
I feel like I am free to decide for myself how to live my life	.068	.491
I feel pressured in my life.	-.226	.202
generally feel free to express my ideas and opinions.	.283	.508
In my daily life, I frequently have to do what I am told.	-.138	.162
People I interact with on a daily basis tend to take my feelings	.172	.417

I feel like I can pretty much be myself in my daily situations.	.269	.396
There is not much opportunity for me to decide for myself	-.437	.489
<i>Item analysis for the relatedness items on the BPNS</i>		
Cronbach's alpha = -.05		
Item	Item-total correlation	Squared multiple correlation
I really like the people I interact with.	.080	.425
get along with people I come into contact with.	.218	.398
much keep to myself and don't have a lot of social	-.239	.328
I consider the people I regularly interact with to be my friends	.147	.265
People in my life care about me.	.198	.360
There are not many people that I am close to.	-.173	.304
people I interact with regularly do not seem to like	-.291	.339
People are generally pretty friendly towards me.	.201	.416

Reliabilities were extremely low (-.05 to -.11) and could not be elevated to an acceptable level by examining the squared multiple correlations for items to delete. Item analyses on both the SDA/CMC and the BPNS scales failed to provide evidence supporting their theoretical structures in this sample. Therefore, exploratory factor analyses were conducted to identify any interpretable structures emerging from the data.

Exploratory Factor Analysis

To test if the scales were appropriate for factor analysis KMO measure of sampling adequacy and Bartlett's test of sphericity were performed. For the SDA/CMC the KMO of .93 and Bartlett's test of sphericity with a Chi-square of 6743.68 resulted in a significant p value ($P=.00$ with 1035 degrees of freedom). For the BPNS the KMO = .93 and a Bartlett's Chi-square of 2856.54 ($p=.00$ with 210 degrees of freedom). These tests described the scales as being adequate for factor analysis. An exploratory factor analysis was conducted to examine an emerging factor structure from the data. Initially a Principal Axis Factor Analysis was conducted extracting items with eigenvalues over 1.0. As the items are hypothesized to be correlated Oblimin Rotation was selected. The resulting structure was confusing, with multiple items loading on the ten factors that emerged. After the fourth factor, the percent of variance explained was minimal and decreased with each subsequent factor. This initial analysis is summarized in Table 4.

Table 4
Factors extracted with eigenvalues over 1.0

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	Percent of Variance	Cumulative Percent	Total	Percent of Variance	Cumulative Percent
1	11.86	25.79	25.79	11.43	24.84	24.84
2	4.63	10.06	35.85	4.17	9.06	33.90
3	2.27	4.93	40.78	1.78	3.88	37.78
4	1.73	3.76	44.54	1.21	2.64	40.42
5	1.33	2.88	47.43	.83	1.79	42.21
6	1.29	2.81	50.23	.75	1.64	43.85
7	1.20	2.60	52.84	.65	1.40	45.25
8	1.31	2.46	55.30	.55	1.19	46.44
9	1.07	2.33	57.63	.52	1.13	47.57
10	1.01	2.21	59.83	.48	1.04	48.62

The scree plot was also examined which showed an elbow after the third factor and a 3 factor solution was examined. The solution had some cross loading but seemed to be interpretable. But before deciding to work with this factor solution this researcher decided to look at the possibility of a five factor solution based on self-determination theory.

When constructing the SDA/CMC, the researcher hypothesized that the instrument would measure 5 constructs, competence, autonomy and relatedness along with internal and external motivation, therefore a forced 5 factor solution was examined using principal axis factor analysis. The pattern coefficients were examined for latent variables. Coefficients smaller than .3 were suppressed. Only four factors emerged and

again many items loaded on multiple factors. To eliminate cross-loading, the suppression of small coefficient was increased incrementally until at the .415 level three substantive, interpretable factors emerged with no cross loading. This supported the three factor solution examined after reviewing the scree plot. Items, pattern coefficients and structure coefficients are shown in Table 5 where structure weights are in parentheses and the item weights that load on that factor are bolded .

Table 5

<i>Factor and structure weights for initial factors</i>			
Item	Factor 1	Factor 2	Factor 3
I have self worth	.75 (.72)	-.03(.08)	.05(-.26)
I determine what happens in my life	.72 (.78)	-.21(.08)	-.24(-.52)
My family has confidence in me	.69 (.75)	-.16(-.05)	-.22(-.50)
I am in control of my life	.68 (.77)	-.13(-.01)	-.28(-.55)
I do a good job of coping with problems	.62 (.57)	.08(.16)	.14(.13)
reaching potential	.61 (.69)	.05(.16)	-.17(-.43)
Lead by example	.57 (.54)	.17(.24)	.15(-.11)
I enjoy going to work	.57 (.57)	.13(.22)	.04(-.21)
I, not the program, determine my choices	.53 (.60)	-.04(.06)	-.18(-.40)
Learning new things when hard motivates me	.49 (.62)	.18(.28)	-.26(-.48)
I feel a sense of accomplishment	.47 (.66)	.34(.44)	-.34(-.56)
I am meeting new people who I enjoy	.45 (.60)	.21(.30)	-.26(-.48)
When I have a job it is not satisfying	-.46 (-.49)	-.08(-.16)	.06(.21)
People I love are my major motivation	.44 (.50)	.06(.14)	-.10(-.30)

At times others make me feel inferior	-.44 (-.49)	.25(.16)	.23(.39)
I have to follow others orders to succeed	-.45 (-.45)	.37(.29)	.17(.33)
The way I lead my life shows my good qualities	.43 (.41)	.39(.44)	.17(-.04)
I have a plan and make it work	.42 (.47)	.41(.48)	.03(-.18)
Learning drug court requirements gives me pride	-.11(.12)	.81(.80)	-.25(-.26)
Overcoming challenges of drug court motivates	.00(.20)	.73 (.75)	-.20(-.26)
Recognition by the Court is very important to me	.07(.09)	.62 (.61)	.17(.10)
Getting good reports from my counselor is import	-.03(.48)	.57 (.56)	.02(-.01)
My effort overcomes obstacles in the program	.16(.80)	.53 (.54)	.15(.04)
I feel very connected to some of the counselors	.28(.42)	.50 (.55)	-.15(-.30)
My group members understand me	.07(.16)	.49 (.50)	-.07(-.13)
I feel that the drug court incentives, are important	-.20(-.20)	.48 (.43)	.19(.23)
Overcoming the obstacles is good for recovery	.19(.40)	.45 (.50)	-.33(-.44)
I feel I am equal to others in the program	-.04(.06)	.45 (.45)	-.06(-.08)
Getting praised makes me want to try harder	.30(.37)	.42 (.47)	-.03(-.18)
I feel the system keeps me down	-.25(-.55)	-.16(-.25)	.66 (.78)
drug court determines my schedule	-.16(-.40)	.01(-.06)	.59 (.66)
All the rules keep me down	-.12(-.37)	-.15(-.21)	.55 (.61)
When I try hard obstacle keeps me from succeeding	-.25(.47)	.04(-.04)	.54 (.64)
If I fail it is because of how the program is set up	-.37(-.58)	.08(-.02)	.54 (.69)
I do this program to stay out of jail	.08(-.11)	-.02(-.04)	.45 (.42)
Most people do not understand my situation	-.03(-.20)	.15(.11)	.45 (.45)

My life is at the mercy of others	-41(-.56)	.16(.06)	.43(.59)
I do not control life decisions because of program rules	.32(.11)	-.25(-.24)	.43 (.42)

After suppressing coefficients below .415 and eliminating cross-loading, the first factor contained 18 items from the three constructs, Competence, Autonomy and Relatedness. These items describe a participant who is engaged in treatment and has high levels of competence, autonomy and relatedness. This factor will be designated Self Determining Attitudes and Behaviors (SDAB).

The second factor contained 11 items, including 7 of the 8 items describing motivational attitudes or behaviors created for the instrument. All four externally motivating items and three of the four intrinsically motivating items loaded on factor 2. Also included on the second factor were four items that describe motivated behavior such as “my effort overcomes obstacles in the program” and “I feel very connected to some of the counselors.” This factor will be designated as the Motivated Attitudes and Behaviors (MAB).

Finally, the eight items on Factor 3 contained items from all three constructs, Competence Autonomy and Relatedness, but these items describe low levels of the constructs and all items cite external forces controlling decisions and obstacles to success. The third factor has a pessimistic valance and describes individuals as having very little control over life choices and pessimistic about success. This factor will be referred to as Obstacles to Recovery (OTR) which is opposite in nature to the SDAB factor..

The OTR factor is negatively correlated to the SDAB factor and, to a lesser extent, the MAB factor. The correlations make sense theoretically as the SDAB factor and MAB factor imply a positive attitude towards treatment and self-image, whereas the OTR factor indicates a negative attitude towards treatment or perceptions of possible success. Factor correlations are represented in Table 6

Table 6
Factor correlations for SDAB, MAB and OTR factors

Subscale	SDAB	MAB	OTR
SDAB	1.00		
MAB	.16	1.00	
OTR	-.42	-.08	1.00

SDAB = the Self Determining Attitudes and Behaviors factor
MAB = the Motivated Attitudes and Behaviors factor
OTR = the Obstacles to Recovery factor

Self-Determining Attitudes and Behaviors (SDAB) Subscale Reliability

Reliability Analysis was conducted on the items compiling the three subscales using the raw data to answer research question number two, “to what extent are the scales developed from analysis of the 46 items internally consistent based in this sample of drug court participants?”. Statistics describing subsequent alpha values when items were deleted were examined to raise reliability and obtain a more concise scale. The items were examined to facilitate interpretation, part of which was to evaluate any items that did not fit the subscale well. There were also three negatively worded items. “At times others make me feel inferior”, “when I have a job it is not satisfying” and “I have to follow others order to succeed” which all correlated negatively on SDAB factor. These items could have been interpreted. As items on the SDAB items describe a self-

determining attitude by the participant and the negatively worded items, when reversed, would have described a connectedness to others and self-sufficiency, the items would have contributed to the positive valence of the SDAB subscale. In order to keep all SDAB items in a positive direction, to simplify, for sake of interpretation, and to keep the subscale more concise, these three items were also dropped. This not only accomplished the previously stated goals but raised the coefficient alpha to .91 as seen in Table 7.

Table 7

<i>Initial and revised internal consistency coefficient Alpha for SDAB factor</i>		
	Initial	Revised after items deleted
Number of items (N)	18	15
Alpha	.81	.91
Scale Mean	66.05	59.31
Scale Standard Deviation	10.31	11.7

As a result the SDAB items are now designated as the SDAB subscale and contained the 15 items presented in Table 8.

Table 8

Final SDAB subscale items

-
- I am reaching my potential
 - Lead by example
 - Meeting new people who I enjoy
 - I have self-worth
 - My family has confidence in me
 - I determine what happens in my life
 - I feel a sense of accomplishment
 - Learning new things even when they are hard motivates me
 - I am in control of my life

I, not the program, determine my choices

I enjoy going to work

I have a plan and make it work

The way I live my life shows my good qualities

People I love are my major motivation

I do a good job of coping with problems

Continued examination of the 15 item SDAB subscale revealed that all but two items described an internal locus of control and intrinsic motivation, which illustrates the participant as in control of competence and autonomy. The two external motivators describe relatedness as motivating. The items “my family has confidence in me” and “the people I love are my major motivators” reflect positive relationships, which is a central construct of SDT and may be interpreted as indicators of increased self-determination. The SDAB subscale describes high levels of competence, autonomy and relatedness, internalized attitudes of self-worth and increased self-determination as described by SDT.

Motivated Attitudes and Behaviors (MAB) Subscale Reliability

The second factor contained 11 items which describe motivating incentives and behaviors that are both internal and external. In addition to the items that were written as external and internal motivators, four other items are included. These items also describe motivators or the process of motivation relevant to SDT. Three of the items (“I feel very connected to some of the counselors,” “My group members understand me,” and “I am equal to others in the program”) increased positive relationships in the context of drug

court. Connection to others is a basic tenet of SDT, and this feeling of inclusion could be seen as a motivator to continue recovery-based behaviors that reduce isolation and marginalization. The other item, “My effort overcomes obstacles in the program,” indicates motivated attitudes and behaviors on the part of the participant. Motivation as an impetus to action would be seen behaviorally as increased effort and creating a plan to overcome obstacles. The 11 items on the second subscale describe both internal and external motivators as important to the participant and include motivated attitudes and behaviors as a result of internal and external incentives. The reliability coefficient alpha for these 11 items is .83. As seen in Table 9, none of the eleven items, if removed, would raise the alpha significantly; therefore, the 11 items in Table 10 comprise the Motivated Attitudes and Behaviors Subscale.

Table 9

Initial and revised internal consistency coefficient Alpha for MAB subscale

	Initial-No revision
Number of items (N)	11
Alpha	.83
Subscale mean	42.15
Subscale standard deviation	7.63

Table 10

Final MAB subscale items

-
- Getting good reports from my counselor is important to me
 - I feel very connected to some of the counselors
 - I feel overcoming the obstacles drug court presents is good for my recovery
 - My effort overcomes obstacles in the program
 - Overcoming the challenges of drug court motivates me
 - I feel that the drug court incentives, movie tickets, gift certificates etc., are important to

me

I feel I am equal to others in the program

Getting praised for my hard work makes me want to try harder

Learning to meet drug court requirements gives me pride

Recognition by the Court is very important to me

My group members understand me

Obstacles to Recovery (OTR) Subscale Reliability

The third factor initially contained nine items, as seen in Table 20. These nine items describe attitudes and behaviors suggesting pessimism about success, the perception of choices as externally controlled, and a lack of positive social support. No items were dropped as the resulting alpha would not have been increased enough to warrant the omission of an item (see Table 11). Although the percent of variance explained by the OTR Subscale is low (approximately 3.7 %), these items describe an important aspect of Court-Mandated Treatment. Being coerced by the legal system to enter a program may result in an attitude of pessimism and resistance, which treatment modalities expect and look to address (Miller, Yahne, & Tonigan, 2003). The final OTR items now designated the OTR subscale are outlined in Table 12.

Table 11

Initial and revised internal consistency coefficient Alpha for OTR subscale

	Initial- No revisions
Number of items (N)	9
Alpha	.84
Subscale mean	23.8
Subscale standard deviation	7.7

Table 12

Final OTR subscale items

My life is at the mercy of others
Drug court determines my schedule
Most people do not understand my situation
I feel the system keeps me down
If I fail it is because of how the program is set up
All the rules keep me down
Even when I try hard an obstacle keeps me from succeeding
My life is at the mercy of others
Drug court determines my schedule
Most people do not understand my situation
I feel the system keeps me down
If I fail it is because of how the program is set up

Validity

Summative scale scores were formed by summing the item scores creating a subscale score for each participant on each subscale (SDAB, MAB and OTR). These subscale scores would be used to evaluate validity. The mean of subscale scores across groups would also be used when comparing groups of interest using ANOVA.

Convergent Validity

The item analysis for the SDA/CMC revealed the theoretical structure similar to previous SDT research (Deci & Ryan, 1985; Ryan & Deci, 2000) was not borne out. The constructs of competence, autonomy and relatedness did not emerge as separate factors. To check an alternate structure due to the context of drug court an EFA on the SDA/CMC was conducted revealed three substantive subscales interpreted as Self-Determining Attitudes and Behaviors, Motivated Attitudes and Behaviors and, An Obstacles to Recovery subscale. These subscales underwent reliability analysis and acceptable coefficient alphas were observed.

Item analysis on the BPNS resulted in similar findings. The factor structure observed in previous research (Vlachopoulos & Michailidou, 2006) of competence, autonomy and relatedness, as with the SDA/CMC, again did not emerge. The theoretical constructs could not be observed as unidimensional subscales of the BPNS. In order to evaluate the BPNS for an alternate structure an EFA was conducted on the BPNS. The EFA of the BPNS resulted in a two factor solution whose factors which were substantively similar to the SDAB and OTR subscale of the SDA/CMC. The items loading on the two factors the BPNS Self Determining Attitudes (BPNS-SDA) and BPNS Obstacles to Recovery (BPNS-OTR) are highlighted in Table 13 with structure weights in parentheses. As the BPNS did not contain motivator statements as in the SDA/CMC there was not a factor that described motivators as in the SDA/CMC.

Table 13
Pattern and Structure coefficients for BPSN Factor 1 and factor 2

	Factor 1	Factor 2
Most days I feel a sense of accomplishment from what I do	.74(.78)	-.08(-.47)
I get along with people I come into contact with	.72(.66)	.12(-.26)
I really like the people I interact with	.72(.71)	.01(-.38)
I have been able to learn new and interesting skills recently	.67(.60)	.15(-.21)
I generally feel free to express my ideas and opinions	.65(.77)	-.22(-.56)
I consider the people I interact with regularly to be my friends	.64(.57)	.13(-.21)
People are generally pretty friendly towards me	.61(.67)	-.12(-.44)
I feel I can pretty much be myself in my daily situations	.60(.68)	-.17(-.43)
People I know tell me I am good at what I do	.56(.55)	.03(-.27)
People I interact with on a daily basis take my feelings into consideration	.53(.65)	-.24(-.52)
People in my life care about me	.51(.62)	-.19(-.46)
I pretty much keep to myself and don't have a lot of social contact	-.45(-.54)	.15(-.39)
I feel like I am free to decide how to live my life.	.43(.64)	-.39(-.62)
There is not much opportunity for me to decide for myself	-.16(-.65)	.73(.81)
Often I do not feel very competent	-.28(-.56)	.53(.68)
In my daily life I frequently have to do what I am told	-.12(-.15)	.50(.44)
I often do not feel very capable	-.32(-.56)	.44(.61)

Reliability analysis was conducted on the BPNS subscales. The BPNS-SDA had an initial alpha of .85, but the negatively correlated item “I pretty much keep to myself and don’t have a lot of social contact” was dropped. This raised the alpha to .90 and retained all items that had positive wording. The reliability of the BPNS –OTR factor was lower at .73 and as there are only four items on this subscale, all were retained.

Reliabilities, scale means and standard deviations for both BPNS factors are seen in Table 14.

Table 14

<i>Reliability analysis for BPNS-SDA and BPNS –OTR factors</i>	
BPNS-SDA	
Number of items	12
Alpha	.90
Subscale mean	46.26
Subscale standard deviation	9.4
BPNS-OTR	
Number of items	4
Alpha	.73
Subscale mean	10.1
Subscale standard deviation	3.93

Note: BPNS-SDA= basic psychological needs survey-self-determining attitudes subscale
 BPNS-OTR= basic psychological needs survey-obstacles to recovery subscale.

As the reliability analysis was completed, the retained factor items are now designated as subscales. A correlation analysis was conducted on the SDAB subscale and OTR subscale of the SDA/CMC and the BPNS-SDA and BPNS-OTR subscales of the

BPNS to answer research question three, “to what extent do scores on the SDA/CMC correlate with scores on the BPNS?”. The SDAB subscale was highly correlated with the BPNS-SDA subscale. Both subscales (SDAB and BPNS-SDA) describe high levels of competence autonomy and relatedness and an intrinsic regulatory style. The OTR and BPNS-OTR subscale were also highly correlated and again the interpretation of both subscales indicates low levels of competence autonomy and relatedness and choices being externally controlled. The similar interpretation of the pattern matrix of the two instruments and correlation coefficients indicate convergent validity between the BPNS and SDA/CMC subscales in this sample. The correlation analysis is displayed in Table 15. The coefficient of determination r^2 indicates 79% of the variability in the BPNS-SDA is accounted for by the SDAB. The r^2 for the OTR and BPNS-OTR is .41 or 41% of variability in the BPNS-OTR is accounted for by the OTR subscale.

Table 15
Correlations of SDAB, OTR, BPNS-SDA and BPNS-OTR subscales

	SDAB	OTR	BPNS-SDA	BPNS-OTR
SDAB	1.0			
OTR	-.42	1.0		
BPNS-SDA	.89	-.61	1.0	
BPNS-OTR	-.61	.63	-.64	1.0

Note: SDAB = Self-determining attitudes and behaviors s subscale
 OTR= obstacles to recovery subscales
 BPNS-SDA= basic psychological needs survey-self-determining attitudes subscale
 BPNS-OTR= basic psychological needs survey-obstacles to recovery subscale.

Criterion Validity

Criterion validity was examined by using the counselor rating as the criterion and subscale scores as dependent variable using a one way ANOVA. Three assumptions must be met in order to proceed with ANOVA. First, the response of the participant must be independent from any other participant's response. This assumption was met as each participant filled out their survey independently from any other participant and each participant filled out one and only one survey.

Second, the distributions used in the analysis must be approximately normal. To evaluate normality, skewness and kurtosis of the distributions were calculated in SPSS version 20. Each dependent variable and independent variable used in the analysis was examined. Proper procedures for testing this assumption have been debated. One method is to standardize the skewness and kurtosis statistic by dividing the statistic by its standard error. But as standard error is a function of sample size and as sample size increases and standard error decrease the statistic will almost certainly become significant. In sample sizes over three hundred, as in this study examining the skewness and kurtosis statistic without standardizing is sufficient (Curran, West & Finch, 1996; George & Mallery, 2012). George and Mallery (2012) state that that normality can be assumed if the absolute value of the skewness and kurtosis statistic is less than 2. Curran et al. are more liberal in their interpretation when stating that an absolute value for skewness must be less than 2.0 and absolute value of kurtosis statistic be less than 7.0. All dependent variables and groups used as independent variables meet the more conservative evaluation of normality with the vast majority of values being less than 1.0. The distributions used in the coming analysis appear to show sufficient normality.

Finally, when examining the data for departures from the assumption of homogeneity of variance some groups did not meet this assumption. When this assumption is not met SPSS supplies a more conservative post hoc statistic for the pairwise comparisons, the Games-Howell which was employed in this study where indicated (George and Mallery, 2012).

To recap the counselor rating procedure described in the methods section, prior to data collection at an agency, the researcher met with the counselors of the groups to be surveyed. At this meeting, SDT was explained. The counselor was given a multi-color pen at the time the group was surveyed. The counselor would collect the envelopes containing the instrument as the participants completed the survey. The counselor would unobtrusively make a red mark on the envelopes of participants nominated to be displaying low levels of competence, autonomy and relatedness and a green mark on the envelopes of participants who, in the counselor's opinion, displayed a high level of self-determination. The participants who were not nominated to be either low or high self-determining represented, in the counselor's opinion, represent the middle range of self-determination. The researcher received all envelopes at the end of collection in order to protect the clients' anonymity. When entering data, the red-marked envelopes were coded "1" in counselor rating and labeled Low Self Determination, while the green-marked enveloped were coded "2"and labeled High Self-Determination." The surveys that did not have a mark from the counselor were coded "0"s and labeled No Rating".

SDAB Subscale by Counselor rating

Conducting analysis of variance on theoretically driven groups such as counselor rated groups, phase groups and employment status groups responds to research

question four, “to what extent do participant groups that ought to differ in self-determination show expected score differences on the SDA/CMC?”. Observing differences between the counselor nominated groups would also be evidence of criterion related validity. Having Criterion related validity would predict that low self-determination participants would have lower SDAB subscale scores than high self-determination participants. Analysis of variance (ANOVA) was conducted on the SDAB subscale as the dependent variable using Counselor Rating as the independent variable or, as labeled in SPSS, the factor. The omnibus F was significant at the $p < .01$ level and the effect size was large, Eta-squared = .42. As Levine’s test of the homogeneity of variances was significant Games- Howell was employed. Results of a post hoc Games- Howell test showed the means of all groups (low self-determination, high self-determination and non-rated) to be significantly different from each other. As SDAB subscale describes self-determining behaviors and attitudes, it is conceptually indicated that differences between the counselors rated groups would exist if the SDAB subscale is to have criterion validity. The mean differences and direction of group means supported the SDAB subscale having criterion validity. The high self-determination group had a mean of 67.11 (N=67) and the low self-determination group had a mean of 43.08 (N = 59). The no rating group fell between the two rated groups with a mean of 61.76 (N =177). All group comparisons were significant ($p < .01$); that is, there were significant differences between the High Self Determination group compared to both the non-rated and Low Self Determination group. The non-rated group’s mean difference from the High and Low self-determination groups was significant and the Low Self-determination group was significantly lower than both the non-rated and High Self Determined group

Motivated Attitudes and Behaviors (MAB) Subscale

Analysis of variance was conducted on the MAB subscale with MAB subscale scores as the dependent variable and using Counselor Rating as the factor. The omnibus F was significant at the $p < .001$ level. Effect size was medium as eta squared = .1. As Levine's test of the homogeneity of variances was significant Games- Howell was employed. Results of a post hoc Games- Howell test showed significant pairwise comparisons. When comparing the high self-determining group (mean = 45.13, N = 67) and the low self-determining group (mean = 39.56, N = 59) the difference was significant at the $p < .01$ level. The difference between the unrated group and high self-determining group was significant at the $p < .01$ level. The low self-determination group and the non-rated group were closer in means 39.56 to 41.88 with a non-significance level of $p = .18$. The criterion of counselor rating coincided with how participants rated motivators and motivated actions with the high self-determining group rating motivated attitudes and behaviors as more important than either the low self-determined group or the unrated group. The means of the three groups are in a direction that indicates the higher the counselor rated the self-determination of the participants the more value that group of participants placed on motivated attitudes and behaviors.

Obstacles to Recovery (OTR) Subscale by Counselor Rating

Lastly there should be differences in the OTR subscale scores by counselor rating, but this comparison should be in the opposite direction of previous comparisons. High self-determination participants should score lower on this negatively worded, pessimistic subscale than low self-determination participants. The data bears this out when Analysis

of Variance was conducted on the OTR subscale. With OTR subscale scores as the dependent variable and using Counselor Rating as the factor, the omnibus F, 84.2, was significant at the $p < .01$ level. Effect size was large as eta squared = .36. As Levine's test of the homogeneity of variances was significant Games- Howell was employed. Results of a post hoc Games- Howell test showed all groups to be significantly different from each other. The direction of the means of the three groups indicates that the higher a counselor rated individuals as having self-determining behaviors, which defines group membership, the lower that group would score on the OTR subscale. The high self-determination group had a mean of 17.41 (N=67) and low self-determination group had a mean of 31.73 (N=59); the non-rated group had a mean of 23.53 (N = 177). The data for counselor rating by subscales is summarized in Table 16 below.

Table 16
Counselor rating by subscales ANOVA

Self-determining Attitudes and Behaviors Subscale					
Group	N	Mean	Standard Deviation	F df=2, 300	Significance level
No Rating	177	61.76a	8.4	150.93	P<.01
Low Self Determining	59	43.082b	10.03		
High Self Determining	67	67.11c	5.88		
Motivated Attitudes and Behaviors Subscale					
No Rating	177	41.88a	7.34	9.07	P<.01
Low Self Determining	59	39.56a	9.03		

High Self Determining	67	45.13b	6.05		
Obstacles to Recovery Subscales					
No Rating	177	23.53a	8.4	150.93	P<.01
Low Self Determining	59	31.73b	10.03		
High Self Determining	67	17.41c	5.88		

Note: The lowercase letter following the means denotes groups with significant differences. Means with the same lowercase letter are not significantly different while means with different lower case letters are significantly different at the $p < .05$ level

These group comparisons show criterion validity of the SDA/CMC subscale scores when compared with the external criterion of counselor rating of high or low self-determination.

Group comparisons

As a participant advances in the program the effect of treatment should increase self-determining attitudes and behaviors and decrease resistance and negative thinking. If the SDA/CMC subscales are measuring high self-determining attitudes and behaviors (SDAB Subscale), attitudes towards motivators and motivated actions (MAB Subscale) and a pessimistic, controlled attitude (OTR Subscale), a logical comparison would be to examine whether there are differences in subscale scores by phase.

SDAB Subscale by Phase ANOVA

An Analysis of Variance test examining scores on the SDAB Subscale by phase shows significant results ($p < .01$). The direction of means for the groups with Phase 1 participants having a mean of 51.89 ($N = 84$), Phase 2 participants with a mean of 60.18 ($N = 71$), phase 3 participants with a 62.4 mean ($N = 86$) and phase 4 with the highest mean at 64.1 ($N = 62$) indicate the higher the participant's phase, the more likely the individual would value self-determining attitudes and behaviors as measured by the SDAB subscale. The results of mean differences being significant and the direction of means seem intuitive. Theoretically scale scores on items that describe self-determination should increase with time in treatment. As Levine's test of the homogeneity of variances was significant Games- Howell was employed. Results of a post hoc Games- Howell test showed Phase 1 participant scores were significantly lower than all other phases on the SDAB subscale. Effect size was medium as eta squared = .1. No other phase comparisons, 2 to 3, 2 to 4 or 3 to 4 were significant. The results of the post hoc test indicate that individuals who have just entered treatment score lower on a subscale that measure self-determining attitudes and behaviors. This is intuitive, as phase 1 individuals have just been released from custody, have an open criminal case, and face prison if unsuccessful in treatment. Phase 1 participants are very new to the process of treatment and may not even be abstinent from substance use at this point.

MAB Subscale by Phase ANOVA

When the MAB subscale was analyzed by phase, the means of each phase group were very close. The mean difference between the highest mean, phase 4, whose mean equaled 43.03 and the lowest, phase 1, whose mean equaled 41.96, was 1.07 points. This resulted

in an insignificant overall omnibus F of $p = .71$. Effect size was small as eta squared = .01. As the ANOVA was not significant, no post hoc tests were conducted. When calculating the average score for the total valid cases ($N=303$), the mean score on the subscale was equal to 42.8. With 11 items on the scale a mean item response of 3.8 could be calculated. This indicates all participants in all phases see these motivations and motivated behaviors as important.

OTR Subscale by Phase ANOVA

The last phase by subscale comparison conducted was an ANOVA using OTR subscale scores as the dependent variable and phase group as the factor. As the OTR subscale is theoretically opposite of the SDAB subscale, analysis should see a reversal in the direction of the order of means. This is due to negative correlation of the obstacles subscale with the SDAB subscale, as the correlation between SDAB subscale and OTR subscale is $-.42$. Phase 1 had a mean of 26.67 ($N = 84$), phase 2's mean equaled 24.3 ($N = 71$), phase 3's mean equaled 22.28 ($N = 86$), and phase 4's mean equaled 21.34 ($N=62$). The largest mean difference was between phase 1 and phase 4. The phase 4 mean was 5.33 points lower than phase 1. Theoretically this is the proper direction for the responses on the OTR Subscale. The omnibus F was significant at the .01 level. Effect size was medium as eta squared = .1. As Levine's test of the homogeneity of variances was significant Games- Howell was employed. Results of a post hoc Games- Howell test showed Phase 1 was significantly different from all phases. Mean differences between Phase 1 and phase 2 were insignificant ($p = .20$). Mean differences between phase 1 and phase 3 were significant ($p < .01$) and with the largest mean difference of 6.62, phase 1 compared to phase 4 were significant at the $p < .01$ level. This indicates that the phase 1

group perceives the program as controlling with higher phase groups having a reduction in this attitude as measured by the OTR subscale. The results of the phase by subscales ANOVA is reported in Table 17.

Table 17

<i>Phase by subscale ANOVA</i>					
Self-Determining Attitudes and Behaviors Subscale					
Group	N	Mean	Standard Deviation	F df= 3,299	Significance level
Phase 1	84	51.89a	14.09	20.04	P<.01
Phase 2	71	60.18b	10.09		
Phase3	86	62.3b	8.29		
Phase 4	62	64.08b	8.95		
Motivated Attitudes and Behaviors Subscale					
Phase 1	84	41.96a	7.06	.71	.55
Phase 2	71	42.6a	7.57		
Phase3	86	41.33a	8.04		
Phase 4	62	43.03a	7.96		
Obstacles to Recovery Subscale					
Phase 1	84	26.67a	8.48	7.67	P<.01
Phase 2	71	24.3a	7.74		

Phase3	86	22.28b	6.22
Phase 4	62	21.34b	7.25

Note: The lowercase letter following the means denotes groups with significant differences. Means with the same lowercase letter are not significantly different while means with different lower case letters are significantly different at the $p < .05$ level

Phase by Family Rating ANOVA

One of the premises of SDT is that a self-determined individual will seek positive relationships. The SDA/CMC survey contained a question that asked the participant to rate their current status of family relationships, on a scale of 1 equaling not very good to 6 equaling very good. Family rating is an indication of relatedness and an examination of the possible differences between phases on family is warranted. Logically, the more time in the program as defined by the current phase would result in improved family relationships. The data supports this with phase 1 having the lowest mean family rating and Phase 4 having the highest. As Levine's statistic was significant a Games-Howell post hoc was employed. The effect size was medium with eta-squared = .09. The results are seen in Table 18.

Table 18

Phase by family rating ANOVA.

Group	N	Mean	Standard Deviation	F df= 3,299	Significance level
Phase 1	84	4.45a	1.48	10.94	P<.01

Phase 2	71	4.81a	1.43
Phase 3	86	5.43b	.91
Phase 4	62	5.29b	.88

Note: The lowercase letter following the means denotes groups with significant differences. Means with the same lowercase letter are not significantly different while means with different lower case letters are significantly different at the $p < .05$ level

Employment by Subscale ANOVA

Theoretically, employment contributes, to all constructs of SDT, competence, autonomy and relatedness. Analysis of employed vs. unemployed participants on the three subscales were conducted. The mean differences between not employed (N =93) and employed (N = 210) on the SDAB, MAB and OTR were compared. The mean difference of 9.81, with employed scoring higher on the SDAB subscale, resulted in an omnibus F (53.4, $df = 1,301$) that was significant ($p < .01$) effect size was large as $\eta^2 = .15$.

Employment designation had no significant differences when analyzing Motivator subscale scores. The employed group had a marginally higher mean of 42.4 when compared to the mean of the not employed groups, which was equal to 41.59. This .81 point mean difference resulted in an insignificant p level of .4 for the observed F of .72 ($df = 1,301$). Employment status on the Obstacle subscale scores indicated a trend that individuals with less relatedness, as measured by not being employed (mean = 26.18), to have higher scores on the Obstacles subscale than the employed group (mean = 22.71).

The mean difference of 3.47 points was significant at the $p < .01$ level with an omnibus F of 13.64 ($df = 1, 301$). Effect size was medium as $\eta^2 = .04$. The results for employment status on all SDA/CMC subscales are displayed in Table 19.

Table 19
Employment status by SDAB, MAB and OTR subscales ANOVA

Group	N	Mean	Standard Deviation	F df= 1,301	Significance level
SDAB subscale					
Not Employed	93	52.51	13.06	53.4	P<.01
Currently Employed	210	62.32	9.62		
MAB subscale					
Not Employed	93	41.59	8.15	.72	.4
Currently Employed	210	42.4	7.41		
OTR subscale					
Not Employed	93	26.18	8.1	13.64	P<.01
Currently Employed	210	22.71	7.3		

Summary

Chapter IV reported the results of the study. When examining the demographics of gender, age and ethnicity, this study's data was very similar to the statewide averages for all drug courts across Oklahoma as reported by ODMHSAS. This study collected data on marital status and level of education in different ways than ODMHSAS, making comparisons to state data inconclusive. There were slight differences in employment

status and percentages of participants reporting having children between the sample and state averages.

One of the priorities of this study was to examine the SDA/CMC psychometrically. An exploratory factor analysis found three subscales. The self-determining attitudes and behaviors subscale include items that measure increased amounts of competence, autonomy and relatedness. The Motivated Attitudes and Behaviors subscale describes both extrinsic and intrinsic motivators. Finally, the Obstacles to Recovery subscale include items that have a pessimistic and externally controlled valence. The reliabilities for all subscales were very adequate.

Construct, Criterion and Convergent Validity were tested and presented. The sorting exercise to create scale items indicated the items did describe the constructs competence, autonomy and relatedness. An error when printing the scale resulted in two very similar items: “the system keeps me down” and “all the rules keep me down”, which would be corrected in any future testing of the instrument. The item “I have no freedom because of drug court” was omitted from the scale and should have been included as an autonomy statement. Another error was made by this researcher when numbering the statements. The number 41 was omitted when labeling the items. The analysis was not impacted by this omission but the mistake is reported and can only be described as a lack of attention to detail on the part of this researcher.

Concurrent criterion validity was evaluated by counselors’ designation of participants into low self-determining and high self-determining groups. With these extremes as the external criterion the subscales scores were examined to see if group designation identified differences in mean subscale scores. Convergent validity was

examined by correlating the SDAB and OTR scores to the subscales extracted in an existing and evidence-based assessment, the BPNS. The subscales on these instruments were highly correlated.

Group comparisons were conducted to examine differences in subscale scores by phase and, employment and were reported. The correlations between family rating and counselor rating were reported.. There was also a difference reported between phases and family rating. An in depth discussion of these results commences in the following section.

CHAPTER 5

DISCUSSION AND CONCLUSION

The purpose of this chapter is to analyze and discuss the results of the study. Implications for SDT in court mandate treatment will be forwarded. The psychometrics for the instrument will be discussed. This chapter will, finally, discuss limitations of the current study and present suggestions for further research.

Generalizability

When looking at the characteristics of the sample and comparing to the state wide agencies for all courts as reported by ODMHSAS the sample was consistent with the state demographics in the categories of Gender, Age, Ethnicity and Number of Children. The categories Employment Status, Marital Status, Having Children and Level of Education had some differences in percentages. Some of these differences could be addressed by gathering the same information on the SDA/CMC questionnaire as the state of Oklahoma collects. Implementing a purposive sampling technique such as proportionate stratified sampling could also ensure similar demographics across conditions such as rural and urban courts or established programs and newly implemented programs. Also increasing the geographical area from which data is gathered may lead to more generalizable results for the state of Oklahoma.

This study is an exploratory study in which SDT has been applied to court-mandated treatment participants for the first time. Data collection shall be increased to a sample of courts in all geographic areas of the United

States. Drug courts are based on “Ten Key Components” (NADCP, n.d.) but individual states may have very different policies for participants. For example, in California, participants are allowed to take psychoactive medication such as painkillers, benzodiazepines or methadone in certain cases. In Oklahoma, drug courts are based on abstinence from all psychoactive substances, therefore an individual cannot participate in drug court if the individual must take those medications on an ongoing basis. An examination of differences between court participants using the SDA/CMC in alternate settings could expand knowledge about best practices concerning psychoactive medications.

Psychometrics

Item analysis of the SDA/CMC subscales, competence autonomy, relatedness, intrinsic and extrinsic motivation revealed the theoretical structure was absent. The absence of theoretical structure was also observed in the established instrument, the BPNS. The subscale items, from both scales, performed extremely poorly as indicators of the theoretical construct. Examining the squared multiple loadings and omitting the worst correlations did not force unidimensionality of the subscales. The item analysis also revealed double barreled items. These items will be reviewed as scale revisions and re-testing is suggested as a means of further scale development.

The entire scale was entered as a exploratory factor analysis to examine the factor structure of the instrument as a whole. The SDA/CMC was observed to have a three factor solution. The first factor described self-determination with items form all three constructs loading on the factor (SDAB). The second factor was indicative of motivated attitudes and behaviors (MAB), while the third factor was very pessimistic and described

external forces in control of decisions (OTR). The factor solution for the existing SDT instrument, the BPNS, did not reveal a three factor solution of the constructs, competence, autonomy and relatedness, as in previous research (Vlachopoulos & Michailidou, 2006). The final two-factor solution had subscales whose items described the same constructs as the SDA/CMC subscales SDAB and OTR, but in more generic item wording. The SDA/CMC was worded very specifically to relate to drug court experiences. Also, as the SDA/CMC was answered first and the BPNS second participants, as instructed, would have seen both sets of items as pertaining to the drug court program.

Drug courts are very controlled environments and as such the covert, or even overt, threat of consequences may influence participants' responses. It is possible that the structure of a self-determination instrument could be influenced by the context in which it is completed. Participants in drug court are undergoing intense counseling and the therapeutic regimen in combination with the fact that their behaviors are constantly being evaluated may make the participants sensitive to or very aware of their current emotional and behavioral state. This hyper awareness may lead to assessing the items not individually but as a group, that is the participants see improvement in all areas of self-determination. Which could lead to a subscale that combines all areas of SDT instead of breaking the constructs out into unidimensional subscales. Testing of the revised instrument will be conducted at the completion of drug court and at 1 year follow to examine differences in factor structure in the absence of programmatic rules and controls.

Alpha coefficients for the subscales of the SDA/CMC were all above .81. The process of examining items for intuitive and substantive subscale fit allowed the

researcher to shorten the scales while keeping the nexus of the construct measured by the scales. Reliabilities on the two subscales of the BPNS were also adequate at .9 for the BPNS-SDA .73 for BPNS-OTR.

The evidence for validity of the new subscales was also promising. Convergent validity was evaluated with the existing BPNS by conducting correlational analysis. The SDAB was highly correlated with the BPNS-SDA. Both these subscales described high levels of self-determination and intrinsic motivation. Conversely, the OTR and BPNS-OTR described an attitude of pessimism and not taking responsibility. The high correlations support convergent validity in this sample. The BPNS is an instrument that has shown the theoretical structure in other contexts such as education and exercise. The observation that this established instrument and the newly constructed SDA/CMC were highly correlated indicates more research in controlled environments and more drug courts is warranted. Replication would be a means of further analyzing the results of this study.

The study revealed evidence for criterion validity through the counselor rating procedure. As the SDA/CMC was designed to measure levels of self-determination, an outside criterion, counselor rating, was established to analyze if the outside criterion would concurrently correlate with the levels of self-determination as measured by the SDA/CMC. The counselors that work with these individuals are trained to assess levels of engagement and improvement in all aspects of the clients' lives. After explaining the constructs of competence, autonomy and relatedness at the pre-survey meeting, all counselors reported an understanding and ability to assess these constructs in the participants. In fact, counselor rating was an excellent criterion as the counselors

consistently picked out the higher and lower performing participants. This is essentially intuitive, since if the counselor could not make these distinctions, he or she would not be showing the skill set one must have to assess and intervene in individuals' behavior. Also significant to the analysis is the fact that participants were assigned to group by phase. Due to this programmatic structure, most of the low self-determining participants came from Phase 1 and 2 groups, and many times a counselor identified up to half of these early phase group members as low performing. As the phase of a group went up, a reversal of this trend was observed. The higher the phase group, the more high self-determining participants were identified by the counselor and fewer or no low self-determining participants were identified in an upper phase group. Examining extreme cases, such as high self-determining participants in early phase groups and low self-determining participants in late phase groups, may be useful in finding ways to engage these outlier participants. A study using Discriminate Analysis to explore indicators that correlate with high or low self-determination should be considered as further research.

The psychometric analysis indicates continued research on the instrument is warranted. The instrument has solid psychometric properties and would benefit from alternate settings, expanded sample size and comparisons to other existing instruments.

Theory into Practice: Self-determination Theory and Court Mandated Clients

Self-determination theory is not formally used in any of the treatment agencies in this study. Rather, motivational interviewing (MI) and cognitive behavioral therapy (CBT) are the methods of choice among all agencies surveyed. Both of these interventions would work well with a theoretical framework grounded in SDT. SDT has great value in both assessment and treatment planning. Many individuals who enter drug

court do so under coercion from the legal system. Zeldman, Ryan and Fiscells (2004) agree that participating in treatment due to legal pressure may cause an individual to exhibit low personal motivation and that “behavior change represents a considerable challenge” (p 676). It is the nature of initial resistance to treatment found in this current study and in previous research (Miller & Rollnick, 1991; Prochaska,, DiClemente & Norcross, 1992) that indicates the theoretical framework of SDT has value if melded with current evidence-based practices. A SDT assessment could more completely examine participants’ motivation and assist in planning for interventions that will support a self-determined life.

Assessment

Although individuals who enter drug court may understand their need for treatment, this study supports the inference that when beginning court-mandated treatment, participants view their lives as externally controlled, the program as punitive, and they are pessimistic about success. This was evidenced in the analysis of variance tests conducted using phase as the independent variable and the SDA/CMC subscales as dependent variables. The ANOVA revealed phase one participants as having the highest mean score on the OTR subscale with subsequent phase scores decreasing

Of course, motivation for treatment varies from person to person and can be a combination of external and internal focus. This continuum of motivational factors is one of the reasons SDT is well suited for court-mandated treatment (CMT). Even if a participant has mixed motives for early treatment it is important for treatment engagement and subsequent personal investment that motivational attitude be assessed and individualized interventions introduced. In this sample, phase 1 participants were

assessed as generally needing to increase intrinsic investment and self-determining attitudes and behaviors. Zeldman et al. (2004) wrote “the more internal the perceived cause of a person’s behavior, the more the person is expected to persist at the activity and in the case of treatment adhere to a therapeutic regimen” (678). Deci and Ryan (2006) agree, stating that according to SDT, the more one is exclusively externally motivated, the more likely one will comply only to avoid punishment or gain reward and less likely to persist when punishment and rewards are removed.

The motivational subscale of this study identifies the importance of motivational factors being a mixture of external rewards and internal acknowledgment of positive emotions such as pride in learning and identification of the utility of change. The high mean score, 3.8, on the motivation subscale scores across participants supports the view that participants see both external and internal reinforcement as important. CMT programs should use this information as a basis for court recognition and other incentives while examining the more internalized personal attitudes in counseling sessions. The correct use of motivational interview (MI) lends itself to the explanation of SDT assessments and therapeutic regimes. MI suggests that to understand a participant’s current view of treatment and find the personal investors a participant has one must assess what is important to that individual (Clark, Walters, Gingerich & Metzler, 2006). By allowing SDT to create a framework to guide MI and periodically assessing self-determining behaviors with the SDA/CMC clinicians could analyze possible movement of an individual being externally regulated to one who sees the utility value of recovery and identification with the constructs of competence, autonomy and relatedness can be facilitated.

The SDAB subscale highlights the movement of participants from a more pessimistic externally controlled view to a stance of personal engagement and positive internal emotions. Participants' scores on this subscale were directional with phase one being lowest. Subsequently Phase 2, Phase 3 and Phase 4 saw incremental increases with Phase 4 with highest means score. This is supportive of the inference that as treatment progresses, successful clients internalize SDT constructs of competence, autonomy and relatedness. To validate this process of treatment effect, a longitudinal, panel study of a sample of participants pretested before treatment beginning and at intervals over the course of the drug court program is suggested.

Treatment Planning

There are also implications for using the subscales for treatment planning, keeping in mind the scale is to be revised and developed further. Each subscale in the SDA/CMC provides different information about participants. The SDAB subscale examines if the participant reports an increased belief in self-worth, ability to self-direct, life choices and engagement to support systems. The obstacles subscale is theoretically opposite of the SDAB subscale. The obstacle subscale measures whether a participant sees their life as controlled by others, the program as punitive and disengaged with positive social support. The differences between Phase 1 and all other phases on SDAB subscale and conversely significantly higher on the OTR subscale may indicate many treatment participants initially feel forced into the program and negatively view their possibility for success. Understanding participants' scores on these subscales has much value in treatment planning. Motivational interviewing is an evidence-based practice

based on the idea that engagement is increased through understanding a client's level of motivation and view about treatment (Clark, et al., 2006).

Drug court uses a token economy; that is, it rewards compliance with incentives and sanctions violations of the rules. This is consistent with SDT. The client may engage only to avoid punishment or receive reward. If this is the case, the clinician has information that can be applied to the participant's treatment. If a participant's beliefs can be operationalized into treatment goals, it may facilitate an increase in prosocial behaviors. For example, if a clinician interprets the results of SDAB subscale and it is revealed that autonomy is important to the client, allowing them to help in group may increase feelings of control and may further invest the client. By increasing leadership, the construct of autonomy is reinforced. If relatedness items on the scale are identified to be motivating by the client, then setting up mentoring programs could benefit not only the socially motivated client, but also benefit the participants who are mentored by observing appropriate, modeled behaviors.

Participants expressed very similar views on motivators. A mixture of both external and internal motivators and actions were deemed important. Finding interventions that increase internal motivators could be an area to study and evaluate as a part of outcomes research. Thus expanding the mix of rewards, and support of self-worth and other internal positive emotions may be beneficial to the participant and increase investment in the program. An examination of levels of extrinsic and intrinsic motivation at graduation as predictors of long term outcomes is suggested.

Program Evaluation

The process of CMT is to increase skills to lead a prosocial life free of substance abuse. Therapeutically this is accomplished by examining motivation (MI) and using cognitive behavioral interventions to increase positive self-image and prudent, goal directed decisions. Another aspect of treatment is to replace old negative support systems with new community assets so the participant may engage in recreation, continued education and experience social support. SDT combines these objectives into one paradigm that could assist stakeholders in evaluating if the needs of the client are being met by assessing competence, autonomy and relatedness throughout the process of treatment.

One measure of a program is process evaluation (Fitzpatrick, Sanders, & Worthen, 2004). Giving participants the SDA/CMC scale at intervals, beginning with admission and ending at graduation or termination, one could judge the effectiveness of the program on that individual in the areas of SDT constructs. If a graduating class of participants report high SDAB score and low OTR scores one could conclude the program facilitated an increase in the constructs of competence, autonomy and relatedness. What the client does after the program is contingent on using the new skills, maintaining motivation and avoiding self-identified hazards to continued recovery.

Limitations

Several limitations of the current study highlight the need for further research and need to be taken into account when interpreting the results. First, as an exploratory study and items constructed specifically for court mandate client further testing of the instrument must be undertaken. Revision of double barreled items will be completed.

Expanding the geographic areas of the sample would allow for increased psychometric evaluation and confirmatory factor analysis. Second, when administered by the researcher as a pencil and paper survey method the time constraints were extreme. An online version would be more cost efficient, reduce time spent administering the survey and decrease demand characteristics and participant reactivity which could result in bias. Lastly, a sampling method that has stratified proportionate sampling may increase generalizability from a reliance on available subjects in a convenience sample.

Further Research

One aspect of revision the scale would include alternate versions to control for practice effects. Dug court as a token economy runs the risk of having assessments biased by social desirability. Alternate forms could help reduce this bias. Also assessing participants after the program may reveal different factor structure as the clients are no longer in a controlled environment.

Population invariance studies may shed light on how the context in which the study is conducted might influence the nature of the structure of self-determination instruments. Contexts that could be examined include the military, traditional probation or incarcerated individuals. This researcher could not find any studies using SDT in controlled environments. The nature of highly organized or strict environments may have theoretical implications for SDT. Evaluating if one experiences self-determination in different ways at different levels of structure or control is well worth evaluating.

Examining scores on the intrinsic items to evaluate internalized feelings about recovery could be used as a predictor and further contact with the criminal justice system or self-reported relapse as a criterion to evaluate intrinsic motivation as a predictor of

continued success. In addition completing the scale at established marks such as one year post-treatment and five-year post-treatment, along with questions concerning relapse, criminal activity and prosocial engagement, could shed light on whether treatment interventions were temporary and diffused once punishment and rewards were removed, or internalized and consistently used by the participant

Another interesting way to examining CMT participants would be adapting items to measure performance vs. mastery goal orientation. CMT participants may engage in treatment to look good in front of the judge, probation officer and counselors. Would individuals who exhibit performance goal orientation succeed after the people whom the participant looked to impress are removed? Conversely, would groups of individuals who exhibited mastery goal orientation internalize the attitudes and behaviors of recovery and see higher long term success?

One of the limitations of this study is that as a cross sectional examination of the participants, one must be cautious in drawing any conclusion regarding the process of treatment as facilitating the differences in in subscale scores. The differences in phase by subscales could have been an artifact of this sample. To better understand the process of treatment and its impact on subscale scores, longitudinal study is suggested.

Conclusion

The purpose of this study was to assess the factor structure and psychometric properties of a new instrument designed to measure the constructs of SDT in court-mandated clients. The following conclusions may be drawn from this study. The hypothesized factor structure of competence, autonomy and relatedness did not emerge. Rather new information about how drug court participants view their experience was

obtained. The SDAB subscale and OTR subscale measure levels of competence autonomy and relatedness with SDAB subscale having a high level of the constructs and OTR subscale having low levels of the constructs. When examining the subscales from an intrinsic and extrinsic perspective the SDAB subscale has a much more intrinsic valence than the OTR subscale which describes external forces in control of participant's choices. These new subscales will be developed further and testing in alternate population. The conclusion that this new instrument has further research possibilities is supported by the results of the psychometric analysis of the instrument .Particularly the high correlation between the new instrument the SDA/CMC and the established BPNS. These two instruments found similar structures which departed from the theoretical subscales and yet were highly interpretable in the context of drug court.

The reliabilities of the subscales were very acceptable from a low of .81 to a high .90. The tests of validity were also encouraging. Convergent validity was examined by testing the new instrument to how it converged with an existing instrument the BPNS. The correlations between the subscales shows similar constructs are being measured in both the new and existing instruments in this sample. Criterion validity was supported as counselor ratings were seen to correlate with scores on SDAB subscale and obstacles subscales. These tests support an assertion that the SDA/CMC was a valid and reliable assessment of SDT constructs in this sample. Individual group comparisons on the subscales indicate further research is needed to examine if the SDA/CMT can be generalized to other courts and, detect treatment impact on SDT constructs longitudinally.

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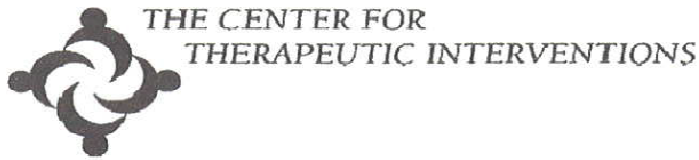
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APPENDIX A: Q STATEMENTS FROM PREVIOUS STUDY.

Traditional-pursues a system of living that works for themselves			
Engaged	I want to repair the damage substances have done to my body.	My physical activity consistently improves my wellness and health.	I have a routine for my day and plan healthy activities
Navigating	Drugs did not really harm my body for the long term.	Diet or exercise is of little use to my drug court experience.	Routines are not necessary as life is unpredictable
Utilitarian- Security in life's dimensions			
Engaged	Seeing old friends prevents me from recovering.	Triggers are dangerous and I work to minimize them.	I have an action plan when I am faced with a high-risk situation
Navigating	I may see old friends but they know I am in drug court and can't use.	I used because I wanted to use, not because of the triggers we learned.	I can say no to using, because it's what I want
Social-investment in relationships and personal growth activities			
Engaged	I really like having a job.	I want to try new hobbies.	I enjoy meeting new people with whom I can relate.
Navigating	It is so hard to go look for work.	I feel bored much of the time.	I do not need to meet new people. I have plenty of friends
Aesthetic-enhancing oneself and environment			
Engaged	I know I am truly growing as a person.	drug court has helped me in my life.	A better 'me' means a better job.
Navigating	drug court controls my life way too much.	No matter what I do, it is not enough for these people.	I do a lot more than I am given credit for doing.
Theoretical-Seeks knowledge, understanding and truth			
Engaged	I am learning about my self in group.	I have learned how my actions affect others.	I am open to new suggestions.
Navigating	I already know what I need to know to get better.	Nobody understands me now.	12-step may help others but it does not help me.
Individualistic-seeks to lead and guide/control one's path			
Engaged	I try to lead by example.	I have learned creative ways to succeed.	My recovery is my strength.
Navigating	I just need to graduate.	I do not need a sponsor to get better.	I could have stopped using without the program.

APPENDIX B: AGENCY LETTERS APPROVING ACCESS TO CLIENTS



4845 South Sheridan Suite 510
Tulsa, Oklahoma 74145

Phone 384-0002
Fax 384-0004

04/20/2011

Oklahoma State University Institution Review Board,

Johnny Mark Kirk has requested and been granted permission by Center for Therapeutic Intervention, (CTI) to conduct a research study examining motivation in Drug Court Clients. Mr. Kirk will meet clients in regularly scheduled outpatient treatment groups sometime between May through December 2011. These sessions will be scheduled in advance with the Clinical Director to insure the least amount of disruption. Mr. Kirk will inform clients in the purpose of the study, obtain informed consent and facilitate a motivational questionnaire. Mr. Kirk will administer the questionnaire at the CTI offices in Tulsa OK. Clients will also be informed there will be no adverse consequences for declining to participate. Please contact me with any questions of concerns



Jennifer Wilburn
Managing Partner
The Center for Therapeutic Interventions
4845 South Sheridan Suite 510
Tulsa Ok, 74145
918-384-0002 fax 918-384-0004

ActionSteps Counseling, Inc.

5525 E 51st St. #210

Tulsa, Ok 74135

918-764-9098



Johnny Mark Kirk has requested and been granted permission by Action Steps to conduct a research study examining motivation in Drug Court Clients. Mr. Kirk will meet clients in regularly scheduled outpatient treatment groups sometime between May through December 2011. These sessions will be scheduled in advance with the Clinical Director to insure the least amount of disruption. Mr. Kirk will inform clients in the purpose of the study, obtain informed consent and facilitate a motivational questionnaire. Mr. Kirk will administer the questionnaire at the Action Steps offices in Tulsa OK. Clients will also be informed there will be no adverse consequences for declining to participate. Please contact me with any questions of concerns

A handwritten signature in cursive script, appearing to read "Lawrence Gilbert".

Lawrence Gilbert LPC LADC

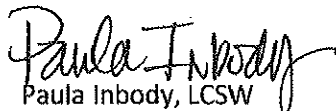
Executive Director



Human Skills & Resources, Inc.

A non-profit organization designed to assist individuals, families, and employees with drug/alcohol and family related problems.

Johnny Mark Kirk has requested and been granted permission by Human Skills and Resources (HSR) to conduct a research study examining motivation in Drug Court Clients. Mr. Kirk will meet clients in regularly scheduled outpatient treatment groups sometime from May through December 2011. These sessions will be scheduled in advance with the Clinical Director, Tracey Hooks, to insure the least amount of disruption. Mr. Kirk will inform clients in the purpose of the study, obtain informed consent and facilitate a motivational questionnaire. Mr. Kirk will administer the questionnaire at the HSR facilities in Tulsa, Claremore and Sapulpa OK. Clients will also be informed there will be no adverse consequences for declining to participate. Please contact me with any questions of concerns.


Paula Inbody, LCSW
Executive Director



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Brittany Sawyer

Angela Swisher

Becky Wright

LT Intern

Lisa Palmer

TyPros Intern

Leah Workman

Executive Director
Pamela D. Richardson,
MBA, CFRE

April 13, 2011

Oklahoma State University IRB
219 Cordell North
Stillwater, OK 74078

RE: Johnny Mark Kirk MHR, LADC, ABD

Johnny Mark Kirk has requested and been granted permission by Resonance Center to conduct a research study examining motivation in Drug Court Clients. Mr. Kirk will meet clients in regularly scheduled outpatient treatment groups sometime from May through December 2011. These sessions will be scheduled in advance with the Clinical Director to insure the least amount of disruption.

Mr. Kirk will inform clients in the purpose of the study, obtain informed consent and facilitate a motivational questionnaire. Mr. Kirk will administer the questionnaire at the Resonance facility in Tulsa OK. Clients will also be informed there will be no adverse consequences for declining to participate.

Please contact me with any questions of concerns.

Yours in service,

A handwritten signature in black ink that reads "Pam Richardson".

Pamela D. Richardson, MBA, CFRE
Executive Director

Resonance Center for Women, Inc. • 1608 S. Elwood Avenue • Tulsa, OK 74119
P: (918) 587-3888, Ext. 225 F: (918) 587-3891
www.ResonanceTulsa.org

APPENDIX C: IRB APPROVAL FOR STUDY

Oklahoma State University Institutional Review Board

Date: Tuesday, May 24, 2011
IRB Application No ED11118
Proposal Title: Assessing Self Determining Attitudes and Behaviors in Court Mandated Treatment Clients
Reviewed and Processed as: Exempt

Status Recommended by Reviewer(s): Approved Protocol Expires: 5/23/2012

Principal Investigator(s):

Johnny Mark Kirk	Laura Barnes
5017 S. Irvington Ct.	700 N. Greenwood
Tulsa, OK 74135	Tulsa, OK 74106

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

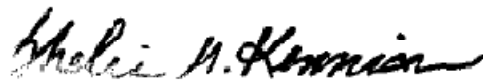
The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Beth McTernan in 219 Cordell North (phone: 405-744-5700, beth.mcternan@okstate.edu).

Sincerely,



Shelia Kennison, Chair
Institutional Review Board

APPENDIX D: PARTICIPANT INFORMATION SHEET

Participant Information Sheet

Investigators: Johnny Mark Kirk MHR LADC. Doctoral student in the College of Education at Oklahoma State University (OSU).

Purpose: This is a research study to gather information from people in Drug Court about why they try to be successful at the Drug Court program. Because you are in the Drug Court your opinion is important.

Procedures: You will be asked to complete a 67 item questionnaire. In addition, you will be asked answer questions about how you might describe yourself. The entire session should take about 30-45 minutes.

Risks: There are no known risks associated with this project, which are greater than those ordinarily encountered in daily life.

Benefits: There are no benefits to completing this project for the people who agree

Confidentiality: Your name is not to be put on any of the sheets of paper. The answers will be locked in the researcher's office. The paper copies will be destroyed one year after the completion of the study. Only the researchers will have access to the information that is stored on a computer disk, and the information will be destroyed five years after completion of the study.

The OSU IRB has the authority to inspect consent records and data files to assure compliance with approved procedures.

Contacts: If you have any questions about your rights as a research volunteer you may contact the Oklahoma State University Institutional Review Board (IRB) Chair Dr. Sheila Kennison, IRB Chair, 415 Whitehurst Oklahoma State University, Stillwater, OK 74078 405-744-3377 or irb@okstate.edu. For questions about the research study, please contact

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Rights: I understand that participating in this research is voluntary. There is no penalty for refusing to fill out the surveys, and that I may withdraw from this research project at any time without penalty.

I have read and fully understand the consent form. A copy of this form has been given to me.

Please read each of the following items carefully, thinking about how it relates to your life, and then indicate how true it is for you.	Not at all true		Somewhat true		Very True
	1	2	3	4	5
1 I am reaching my potential	1	2	3	4	5
2 When things go wrong I feel like quitting	1	2	3	4	5
3 I lead by example	1	2	3	4	5
4 I have to follow others orders to succeed	1	2	3	4	5
5 I am meeting new people who I enjoy	1	2	3	4	5
6 Many Times I feel out of place	1	2	3	4	5
7 I have self worth	1	2	3	4	5
8 My family has confidence in me	1	2	3	4	5
9 Getting good reports from my counselor is important to me	1	2	3	4	5
10 I determine what happens in my life	1	2	3	4	5
11 My life is at the mercy of others	1	2	3	4	5
12 I feel very connected to some of the counselors	1	2	3	4	5
13 I feel overcoming the obstacles Drug Court presents is good for my recovery	1	2	3	4	5
14 I feel a sense of accomplishment	1	2	3	4	5
15 I have found others to help me fix my problems	1	2	3	4	5
16 My effort overcomes obstacles in the program	1	2	3	4	5
17 Drug Court controls my life	1	2	3	4	5

	1	2	3	4	5
	Not at all true		Somewhat true		Very True
18 I have a sponsor or 12 step home group	1	2	3	4	5
19 Learning new things even when they are hard motivates me	1	2	3	4	5
20 Most people do not understand my situation	1	2	3	4	5
21 Overcoming the challenges of Drug Court motivates me	1	2	3	4	5
22 I feel the system keeps me down	1	2	3	4	5
23 I am in control of my life	1	2	3	4	5
24 I feel that the Drug Court incentives, movie tickets, gift certificates ect.. are important to me	1	2	3	4	5
25 I feel I am equal to others in the program	1	2	3	4	5
26 At times others make me feel inferior	1	2	3	4	5
27 I am confident I will succeed	1	2	3	4	5
28 The program requirements are too hard	1	2	3	4	5
29 I, not the program, determine my choices	1	2	3	4	5
30 I do not control my life decisions because of program rules	1	2	3	4	5
31 I enjoy going to work	1	2	3	4	5
32 Getting praised for my hard work makes me want to try harder	1	2	3	4	5
33 I have a plan and make it work	1	2	3	4	5
34 If I fail it is because of how the program is set up	1	2	3	4	5
35 Learning to meet Drug Court requirements gives me pride	1	2	3	4	5

36	All the rules keep me down	1	2	3	4	5
37	My group members understand me	1	2	3	4	5
38	I see old friends even though I cannot use with them	1	2	3	4	5
39	Recognition by the Court is very important to me	1	2	3	4	5
40	The way I lead my life shows my good qualities	1	2	3	4	5
42	I do not relate to people in group	1	2	3	4	5
43	I do this program to stay out of jail	1	2	3	4	5
44	Even when I try hard an obstacle keeps me from succeeding	1	2	3	4	5
45	People I love are my major motivation	1	2	3	4	5
46	I do a good job of coping with problems	1	2	3	4	5
47	When I have a job it is not satisfying	1	2	3	4	5

APPENDIX F: BASIC PSYCHOLOGICAL NEEDS SURVEY

Please read each of the following items carefully, thinking about how it relates to your life, and then indicate how true it is for you.		Not at all true	Somewhat true			Very True
		1	2	3	4	5
1	I feel like I am free to decide for myself how to live my life	1	2	3	4	5
2	I really like the people I interact with.	1	2	3	4	5
3	Often, I do not feel very competent.	1	2	3	4	5
4	I feel pressured in my life.	1	2	3	4	5
5	People I know tell me I am good at what I do.	1	2	3	4	5
6	I get along with people I come into contact with.	1	2	3	4	5
7	I keep to myself and don't have social contacts.	1	2	3	4	5
8	I generally feel free to express my ideas and opinions.	1	2	3	4	5
9	I consider the people I regularly interact with to be my friends.	1	2	3	4	5
10	I have been able to learn interesting new skills recently.	1	2	3	4	5
11	In my daily life, I frequently have to do what I am told.	1	2	3	4	5
12	People in my life care about me.	1	2	3	4	5
13	Most days I feel a sense of accomplishment from what I do.	1	2	3	4	5
14	People I interact with on a daily basis tend to take my feelings into consideration.	1	2	3	4	5

15	In my life I do not get much of a chance to show how capable I am.	1	2	3	4	5
16	There are not many people that I am close to.	1	2	3	4	5
17	I feel like I can pretty much be myself in my daily situations.	1	2	3	4	5
18	The people I interact with regularly do not seem to like me much.	1	2	3	4	5
19	I often do not feel very capable.	1	2	3	4	5
20	There is not much opportunity for me to decide for myself how to do things in my daily life.	1	2	3	4	5
21	People are generally pretty friendly towards me.	1	2	3	4	5

APPENDIX G: DISCUSSION OF DEMOGRAPHIC CHARACTERISTICS OF SAMPLE

The sample was skewed toward males, with 63.7 % males to 36.3% females, as seen in Table 20. This is consistent with the latest ODMHSAS statistics, which report statewide that males outnumber females in Oklahoma drug courts 68.5 % to 31.5 % (2006).

Table 20
Gender In Sample and ODMHSAS Averages

	<i>Frequency</i>	<i>Percent</i>	<i>ODMHSAS Average</i>
Male	193	63.7	68.5
Female	110	36.3	31.5
Missing	0	0	
Total	303	100	100

As documented in Table 21 below, approximately 42% of the sample was between the ages of 18 and 29, which constituted the largest age demographic. The next largest demographic group was individuals age 30 to 39, which constituted approximately 33% of the sample. Consequently, 75% of the sample group was below the age of 40. Those age 40 to 49 made up 17 % of the sample population, and approximately 6% of the sample consisted of people in their 50s, with only one participant in their 60s. The state of Oklahoma only reports an overall mean age of participants. ODMHSAS reports a mean age across drug courts in Oklahoma at 34.1. The sample mean was very similar at 33 years old.

Table 21
Age of participants in sample and ODMHSAS average

	<i>Frequency</i>	<i>Percent</i>	<i>Overall sample average</i>	<i>ODMHSAS State average</i>
18-29	126	41.6	33	34.1
30-39	99	32.7		
40-49	52	17.2		
50-59	18	5.9		

60 and over	1	.3
Missing	7	2.3
Total	303	100

When examining ethnicity, the statewide data is very similar to the sample data. The largest ethnicity in both the sample and state data is Caucasians, at 65.3% and 66.0% respectively. Hispanic and Native Americans are within approximately 2 percentage points when comparing sample data to statewide data. The largest difference was in African Americans, for whom the sample was 3.2% lower than the state average (12.8 to 16%). Demographic comparison of sample and state percentages for ethnicity are outlined in Table 22.

Table 22
Reported ethnicity of sample participants and ODMHSAS averages

	Frequency	Percent	ODMHSAS averages
African American	39	12.8	16.0
Caucasian	198	65.3	66.0
Hispanic	10	3.3	2.0
Native American	54	17.8	16.0
Missing	0	0	
Total	303	100	100

The level of education revealed that 4.3% of the sample completed only elementary school. The largest group was junior high/high school graduates, at 57.1%. The way this demographic was worded confounds the ability to compare educational level to ODMHSAS averages. The categories elementary and junior high should be combined instead of junior high and high school. This would have to be corrected in future studies. The sample reported 34.4% had attended at least some college and 4% had attended graduate school (see Table 21). The ODMHSAS website only reported whether or not participants had completed high school. The ODMHSAS average for not having a high school diploma was 21.7% at graduation. This study's collection of data broke

education level into multiple categories making comparison to ODMHSAS data more difficult. Additional statistics from statewide court programs or only gathering high school completion data in future studies would facilitate better comparison. Table 23 shows 95.3% of respondents indicated obtaining at least a high school diploma. With inconsistencies between how the study and ODMHSAS collected level of education data future studies may want to mirror ODMHSAS categories to facilitate comparisons.

Table 23
Level of education in sample and ODMHSAS averages

	Frequency	Percent	ODMHSAS State average for having High school diploma or GED
Elementary	13	4.3	
Junior high/High school	173	57.1	88.3
Some college	105	34.4	
Graduate school	12	4.0	
Missing	0	0	
Total	303	100	

ODMHSAS only reports the percentage of participants with at least a High School education (88.3%)

The employment rate of the sample was higher than the state average, 69.3 to 52%, respectively. Neither the current study or ODMHSAS statistics report data on participants who are retired or on social security, disability and unable to work. Table 24 presents employment information for the sample

Table 24

Employment rates in sample and ODMHSAS averages

	Frequency	Percent	ODMHSAS averages
Not employed	93	30.7	48
Currently employed	210	69.3	52
Missing	0	0	
Total	303	100	100

With respect to marital status, the largest group was single, with 43.6% in the sample, and 35.4 % reported as the state average. The state of Oklahoma did not have a common law/partnered category. In the sample married and living as married, as defined by partner/common law, summed to 28.8% which is close to the state average of 26.6%. The “separated” group was comparable but the sample had a lower rate of divorce 17.2% to the state’s average of 26.9%. Reorganizing the demographic survey for the SDA/CMC to gather the same categories as the state data would allow better comparisons. The marital status data is found in Table 25 below

Table 25

Marital status in sample and ODMHSAS averages

	Frequency	Percent	ODMHSAS averages
Single	132	43.6	35.4
Partner/Common law	45	14.9	
Married	42	13.9	26.6
Separated	25	8.3	8.1
Divorced	52	17.2	26.9
Widowed	7	2.3	1.4
Missing	0	0	0
Total	303	100	100

Note: ODMHSAS did not report a category of Partnered or Common Law. Further studies should synchronize data categories and/or operationalize the category “Married” to include Common Law relationships

The sample had a higher rate of participants reporting having children at 73.9 to 67.9 for the state. The data for having children did not differentiate between parents with custody or trying to regain custody which would be a variable of interest in further

research. The data for participants reporting having children in the sample and State average is summarized in Table 26.

Table 26

Participants reporting having children in sample and ODMHSAS averages

	Frequency	Percent	ODMHSAS averages
No Children	79	26.1	32.1
Have Children	224	73.9	67.9
Missing	0	0	0
Total	303	100	100

This researcher reported many demographic groups to examine the sample's characteristics and compare sample data to Oklahoma averages to evaluate generalizability, but demographics can also designate groups of interest to be used for statistical comparisons.

The following two demographic groups are sample-specific and were used for group designation during analysis. ODMHSAS did not report State of Oklahoma averages for either of these groups, phase and previous treatment episodes prior to Court Mandated treatment. This data is presented in Table 27 for Phase and Table 28 for previous treatment.

Table 27

Participants per phase in sample

	Frequency	Percent
Phase 1	84	27.7
Phase 2	71	23.4
Phase 3	86	28.2
Phase 4	62	20.5
Missing	0	0
Total	303	100

Table 28

Participants reporting substance abuse treatment prior to drug court

	Frequency	Percent
No Prior treatment	165	54.5
Received prior treatment	138	45.5
Missing	0	0
Total	303	100

VITA

Johnny Mark Kirk

Candidate for the Degree of

Doctor of Philosophy

Thesis: ASSESSING SELF-DERMINING ATTITUDES AND BEHAVIORS IN
COURT MANDATED TREATMENT CLIENTS

Major Field: Educational Psychology with emphasis in Research and Evaluation.

Biographical:

Education:

Completed the requirements for the Doctor of Philosophy in Educational Psychology at Oklahoma State University, Stillwater, Oklahoma in May, 2012.

Completed the requirements for the Master of Science in Human Relations at the University of Oklahoma, Tulsa, Oklahoma in May, 2006.

Completed the requirements for the Bachelor of Science in Social and Behavioral Science at Rogers State University, Claremore, Oklahoma in May 2004.

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Assistant professor in the Psychology, Sociology and Criminal Justice Department at Rogers State University August 2011 to present. Contract

Instructor at Rogers State University August 2010 to August 2011.

Adjunct instructor at Tulsa Community College and Rogers State University January 2009 to August 2010

Professional Memberships:

National Association of Drug Court Professionals (NADCP)

Licensed Alcohol and Drug Counselor (LADC)

Oklahoma Drug and Alcohol Professional Counselors Association (ODAPCA)

Name: Johnny Mark Kirk

Date of Degree: May, 2012

Institution: Oklahoma State University

Location: Stillwater, Oklahoma

Title of Study: ASSESSING SELF-DETERMINING ATTITUDES AND BEHAVIORS IN COURT MANDATED TREATMENT CLIENTS.

Pages in Study: 129 Candidate for the Degree of Doctor of Philosophy

Major Field: Educational Psychology with emphasis in Research and Evaluation

Scope and Method of Study: The study was to test a newly constructed self-determination scale designed for court mandated treatment clients. To achieve this item analysis and an exploratory factor analysis were conducted to examine the structure of the new instrument, the Self-Determining Attitudes in Court Mandated Clients (SDA/CMC). Psychometric evaluation included reliability analysis, and evaluation of evidence for content validity, convergent validity and criterion based validity. In addition comparisons of group means on the instrument subscales were conducted.

Findings and Conclusions: The item analysis and exploratory factor analysis did not reveal the theoretical self-determination constructs of competence, autonomy and relatedness. The three factor solution was interpreted to describe a self-determination factor, a motivational factor and an obstacle to recovery factor. The reliability for these subscales was acceptable as all three were above .80. There was evidence for convergent validity as the SDA/CMC was highly correlated with subscales on an existing self-determination instrument the Basic Psychological Needs Survey (BPNS). Evidence for criterion related validity was observed using a process where counselors rated clients into low or high self-determining groups. The subscales of the SDA/CMC also detected differences when examining the group means of the phases group and employment status group. The findings support the need for further instrument development, expanding sample size and population invariance testing.

ADVISER'S APPROVAL: DR. LAURA BARNES
