

STAGES OF CHANGE, SELF-EFFICACY, SOCIAL SUPPORT, AND SUBSTANCE
ABUSE WITHIN A GAINESVILLE, FLORIDA DRUG COURT PROGRAM

By

REBECA LAU KOVAR

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Rebeca Lau Kovar

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Abstract of Thesis Presented to the Graduate School
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ABUSE WITHIN A GAINESVILLE, FLORIDA DRUG COURT PROGRAM

By

Rebeca Lau Kovar

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Drug abuse and alcohol abuse are growing problems in today's society. Effective treatment helps to reduce the already huge costs to society, the individual, and families of the alcohol or substance abuser. Advancing through the various stages of change, self-efficacy, and increased social support have been found to be integral parts of effective substance abuse treatment. The purpose of the study was to measure social supports, self-efficacy, and stages of change for clients within Corner Drug Store's Outpatient Services that are criminal drug offenders.

An ex-post facto cross-sectional research design was applied to a convenience sample drawn from clients participating in a drug-court treatment program at the Corner Drug Store in Gainesville, FL. Scales used in this study were as follows: the Stages of Change Scale-Substance Abuse, the Adapted Alcohol Abstinence Self-Efficacy Scale, the Multidimensional Scale of Perceived Social Support, and a Demographics Questionnaire.

A series of Analyses of Variances (ANOVAs) and a Pearson product-moment correlation were conducted. No significant relationships were found between the participants' phase in treatment and the various stages of change. Significant relationships were found between ethnicity and select subscales in each of the three scales. The amount of time using illicit substances also appeared to have a relationship with several of the stages of change subscales.

CHAPTER 1 INTRODUCTION

Alcohol and drug use is a common occurrence in today's society, with such use often associated with a variety of medical, psychological, and social problems (Frances & Miller, 1991). In the 2003 National Survey on Drug Use and Health (Substance Abuse Mental Health Services Administration [SAMHSA], 2004) a variety of data about adult drug use in the United States was collected. These data include overall prevalence of use during the preceding year and preceding month for different drugs, including alcohol and tobacco cigarettes. In this case "use" means the respondent used the drug in question at least once during the time period in question. Several of these findings stand out. There are reportedly an estimated 19.5 million illicit drug users aged 12 or older. Marijuana heads the list of illicit drug use at 75.2 percent. These relationships hold up both for use in the past year and for use in the past month. There are reportedly an estimated 119 million current drinkers of alcohol in the survey (SAMHSA, 2004).

The prevalence of drug use differs with characteristics of people. An example of this would be the prevalence of drug use in the past month varies as a function of age. Individuals between the ages of 18-20 have the highest illicit drug use at 23.3 percent. Rates of alcohol use in the past month were highest among individuals between the ages of 21-25, used by approximately 70 percent (SAMHSA, 2004).

Substance use during the past month also varies according to ethnic/racial group and gender. Men, 10 percent, were more likely than to report illicit drug use than women, 6.5 percent, and were considerably more likely to report any use of alcohol (62.4

percent versus 46 percent). For ethnic/racial differences, whites, 54.4 percent more frequently reported any alcohol use than did Hispanics, 39.8 percent, and, blacks, 37.9 percent. In respect to illicit drug use rates were 8.7 percent for blacks, 8.0 percent for whites, and 8.0 percent for Hispanics (SAMHSA, 2004).

According to the 2003 National Survey on Drug Use and Health (SAMHSA, 2004) among the estimated 1.4 million adults aged 18 or older on parole or other supervised release from prison during the past year, 24.3 percent were current illicit drug users compared with 7.7 percent among adults not on parole or supervised release. Also, among the estimated 4.8 million adults on probation at some time in the past year, 28 percent reported illicit drug use in 2003. This compares with a rate of illicit drug use at 7.4 percent among adults not on probation in 2003 (SAMHSA, 2004).

Treatment reduces costs to society, largely in savings from the criminal justice system (Gerstein, Johnson, Harwood, Fountain, Sutter, & Malloy, 1994). Treatment also enhances the overall functioning of individuals and families. Substance abuse increases morbidity and mortality, reduces overall mental and physical health, disrupts neighborhoods, and reduces productivity. Even individuals other than the users themselves are affected. Other external problems increased by substance abuse include drug-related crimes and the spread of contagious diseases (Harwood, Hubbard, Collins, Rachal, 1995; Hubbard, Craddock, Flynn, Anderson, Etheridge, 1997). Illicit drug use is responsible for over 250,000 deaths annually. In 1992, total costs, including health care expenditures, lost productivity, crime-associated costs, and other factors, were estimated to be 97 billion dollars. The category "lost productivity," the largest at 69 billion dollars, includes the value of time lost due to premature death, institutionalization, incarceration,

and victimization by crime. Crime-related cost is the second biggest cost category, at almost 18 billion dollars. Health care expenses constitute the third major category, which is estimated to cost society about 10 billion dollars (Harwood, Fountain, & Livermore, 1997).

Miller and Rollnick (2002) found that substance abusers often recognize the risks, costs, and harm involved in their behavior. Yet for a variety of reasons are to attached and attracts to the behavior to change. The individuals are stuck in a state of ambivalence; they want to use but they don't want to, they want to change but they don't want to. The authors find this ambivalence to be a natural phase of the process of change as long as they continue to move through it. When an individual gets stuck in ambivalence their problems may persist and intensify (Miller & Rollnick, 2002).

The Transtheoretical Model (DiClemente & Prochaska, 1985, 1998) is based on the notion that behavior change occurs in increments and it involves detailed and varied tasks. This model offers a framework for understanding the process of behavior change. In this model change is viewed as a progression from the precontemplation stage, where no change is considered; to contemplation, where the individual weighs the pros and cons of change; and then to preparation, where planning and commitment are secured. Successful accomplishment of these initial stages lead to taking action and making specific behavior change; if successful in the action stage the individual moves into the final stage, maintenance, in which the person works to maintain and continue long-term change (DiClemente & Prochaska, 1998; Prochaska, DiClemente, & Norcross, 1992).

Miller and Rollnick (2002) have found self-efficacy, individuals' belief in their ability to carry out and succeed with a specific task, to be a key element in motivation for

change. Self-efficacy was also found to be a reasonably good predictor of treatment outcome. The authors state that if that if the individual perceives no hope or possibility for change, no effort will be made towards change (Miller & Rollnick, 2002).

Sobell, Sobell, Toneatto, and Leo (1993) found that the greatest single factor with maintaining recoveries for alcohol abusers is that of social support, particularly from family and friends. Social support has been found to be a crucial component in a successful drug treatment program, as it allowed individuals to adapt to stressful life situations (Caplan & Killilea, 1976). In terms of relapse potential, Havassy, Hall, and Wasserman (1991) found that social integration and abstinence-specific functional support predicted lower risk of relapse to tobacco, alcohol, and opiates.

Statement of the Problem

Substance abuse treatment is complicated and intricate. Substance use harms society by reducing user's physical and mental health and productivity, reducing family and social functioning, and by increasing crime. Without effective treatment programs these problems will continue to escalate (Sindelar & Fiellin, 2001). Development of effective treatment programs must consist of awareness of addiction, the stages of change, developing social supports, and increased motivation. There is a need to measure how individuals are progressing through treatment and to make sure they are moving through as intended. There is a need to know if individuals need increased treatment in the above-mentioned areas. There is also a need for more effective measurement in treatment, which may aid in the overall effectiveness of programs.

Significance of the Study

This study has taken a sample of individuals that are currently involved in a substance abuse treatment and measured their progress with regard to social support, self-

efficacy, and stages of change. It is important for substance abuse treatment facilities to be able to track their clients' progress and to determine the effectiveness of the overall treatment. Additionally, this study may aid in the identification of individuals in need of increased treatment. This research would be beneficial to program participants because in theory as the participants advance in treatment they should gain more social supports, have a higher self-efficacy, and should move through the stages of change. The program may choose to use the measures studied in this research as part of treatment in the future to identify problem areas for their clients, which would in turn allow the treatment outcome to be a more successful one.

The purpose of the study is to measure social supports, self-efficacy, and stages of change for clients within Corner Drug Store's Outpatient Services that are criminal drug offenders.

The research questions to be addressed in this study are as follows:

1. Are there relationships between the scores on the Stages of Change Scale-Substance Abuse (SCS-SA), the Adapted Alcohol Abstinence Self-Efficacy Scale (Adapted AASE), the Multidimensional Scale of Perceived Social Support (MSPSS), and the "phase" of treatment at Corner Drug Store, Inc.
2. Are there relationships between a set of demographic variables (i.e., ethnicity, age, drug of choice, length of use, length of time in the program) and the scales discussed in question one.

CHAPTER 2 LITERATURE REVIEW

Stages of change

Cessation of problem behavior and initiation of better responses does not occur in one abrupt action (Abellanas & McLellan, 1993). Prochaska and DiClemente (1982,1986) developed the Transtheoretical Model depicting a sequence of stages through which people progress as they initiate and maintain behavior change. These stages have been used to understand the process of stopping problem behaviors, such as cessation of smoking and other addictive behaviors (Snow, Prochaska, & Rossi, 1992) as well as overeating and unsafe sexual behaviors (Prochaska et al., 1992)

The Transtheoretical Model hypothesizes that the cessation of high-risk behaviors and the acquisition of healthier alternatives involves progression through five “stages of change”: precontemplation, contemplation, preparation, action, and maintenance (Abellanas & McLellan, 1993). The first of these stages is called *precontemplation*, a state of unawareness of a problem or a need for change (Miller & Rollnick, 1991). In this stage the individual is not intending to change the behavior in the foreseeable future (Grimley, Prochaska, Velicer, Blais, & DiClemente, 1994). As awareness of the problem increases, the individual enters a state of ambivalence or *contemplation*, in which the individual weighs the possible pros and cons (Miller & Rollnick, 1991). The individual in this stage may intend to change but has not made a serious commitment to that change (Grimley et al.). Over time, the decisional balance may tip in favor of change, as the adverse consequences (cons) outweigh the perceived advantages (pros). This point has

been termed “bottoming out,” it suggests a developmental point at which the individual shifts from unmotivated to motivated status by having endured a sufficient volume of suffering to instigate change (Janis & Mann, 1977). In the original model Prochaska and DiClemente (1986) termed this point in which the balance shifts the *determination* stage but subsequently deleted the stage and then more recently reinstated it, renaming this transition period as a *preparation* phase (Prochaska & DiClemente 1992; Prochaska et al., 1992). Following this transition the individual moves into an *action* stage in which efforts are made to change the behavior. If the initial efforts are successful the individual moves into the *maintenance* stage, which involves relapse prevention (Marlatt & Gordon, 1985). Relapse prevention involves taking steps to protect against falling back into the old pattern of behavior. Given that behavior is usually not maintained on the first try in most cases, Prochaska and DiClemente (1986) also describe a *relapse* stage, in which the individual may revert back to action or cycle back through contemplation, determination-preparation, action, and maintenance in order to achieve lasting behavior.

Self-efficacy

The concept of self-efficacy has played a major role in the understanding and treatment of addictive behaviors. Bandura (1986) defined perceived self-efficacy as “people’s judgments of their capabilities to organize and execute courses of action required to attain designated types of performances” (pp.391). Self-efficacy is how individuals deal with prospective situations that contain many ambiguous, unpredictable, and often stressful, elements. Self-efficacy is a cognitive process because it deals with perceived judgments individuals make about their competency to perform adequately in a specific task situation (Marlatt, 1985). Individuals may perform poorly, adequately, or extremely well depending on the individual variations in perceived self-efficacy

(Bandura, 1995). Perceived self-efficacy affects people's choice of activities and behavioral settings, how much effort they expend, and how long they will persist in the face of obstacles and aversive experiences. The stronger the individual's perceived self-efficacy, the stronger the coping skills. Those individuals who continue in threatening activities will eventually eliminate their inhibitions through their experiences, whereas those who avoid what they fear, or who cease their coping efforts early, will retain their defensive behavior (Bandura & Adams, 1977).

DiClemente (1986) noted that self-efficacy, as it relates to substance abuse treatment, is manifested by an individual's perceptions of his or her ability to mobilize necessary motivation, knowledge, and behavior to control or abstain from use of alcohol or other drugs. Efficacy beliefs are thought to affect all the phases of personal change from whether to change the behavior at all, to whether the individual succeeds at initiating the change, to whether the change is successfully maintained. In the case of addictive behaviors maintaining the change over time is the major problem (Bandura, 1992). Successful coping with prospective high-risk situations increases one's sense of self-efficacy and decreases the probability of relapse, whereas failure experiences have the opposite effect (Marlatt, 1985). There is a substantial body of research that supports the relationship between self-efficacy and treatment outcome (Annis & Davis, 1989; Burling, Reilly, Moltzen, & Ziff, 1989; DiClemente, 1981; McKay, Maisto, & O'Farrell, 1993; Rychtarik, Prue, Papp, & King, 1992).

Social Support

According to McCrady (2004), people seek out intimate and supportive relationships, and such relationships are common among couples, parents and children, siblings, and friends. There are many things that can lead to better or worse outcomes

following substance abuse treatment. Being involved with others and receiving high levels of support from even one person prior to treatment, having a spouse, being more socially connected or involved (Havassy et al., 1991), having more people to go to with problems (Rosenberg, 1983), and having more friends who do not use substances (Zywiak, Longabaugh, & Wirtz, 2002) all predict more positive treatment outcomes. For women in particular having a larger social network also facilitates a more positive outcome (McCrary, 2004). There are also certain aspects of the way a social network functions that lead to better treatment outcomes. These predictors of success include families that are more cohesive, have an active, shared recreational focus, disagree less (Moos, Bromet, Tsu, & Moos, 1979), and provide the individual with more reassurance of worth (Booth, Russell, Soucek, Laughlin, 1992). Having a better functioning marriage prior to treatment also predicts less frequent relapse and less frequent readmission to treatment (McCrary, Hayaki, Epstein, & Hirsch, 2002).

Just as there are aspects of the social network that may lead to better outcomes with treatment, there are also those that may lead to negative outcomes. Some of these include having friends in the network that use and maintaining those friendships after treatment (Mohr, Averno, Kenny, & Delboca, 2001), greater marital dissatisfaction (McCrary, Epstein, & Sell, 2003), the presence of higher levels of expressed emotion (i.e., criticism, hostility, and emotional over involvement; O'Farrell, Hooley, Fals-Stewart, & Cutter, 1998); and experiencing more stress from friends (Gordon & Zrull, 1991).

In the case of criminal justice-mandated clients, those supported by a strong network of affective ties tend to have a greater stake in conformity. Some factors that seem to be important to their treatment success are satisfaction with the family life

(Slaughter, 1999) and encouragement from the partner or spouse to enter treatment (Tucker, 1979). Just as with noncriminal justice-mandated clients, there are factors that will also hinder treatment success for these clients. These factors are problems with significant others, having little or no family/emotional support (Lang & Benko, 2000), and those whose close relationships consist of other addicts (Sung, Belenko, Feng, & Tabachnick, 2004).

Program

While in operation only since 1989, drug treatment courts are considered to be the most innovative, comprehensive, and successful alternatives to incarceration yet developed (Hennessey, 2001). The “drug courts” grew from a realization that the system was not working for drug offenders. The offenders were in and out of jail and were simply clogging the system and costing millions of dollars in ineffective efforts to rehabilitate chronic offenders. The Miami-Dade County Circuit Court was the first to implement a mandatory “treatment” component into the supervisory responsibilities of the court. The court relied upon the authority of the judge to develop and supervise a comprehensive, community-based rehabilitation and supervision program that intended to use the “coercive powers” of the court to compel offenders to abide by the treatment plan in order to avoid incarceration. The essence of drug courts today continues to be the coercive power of the court to impose sanctions, including incarceration, on participants who deviate from the treatment plan (Hennessey, 2001).

Demographics

Age. Research has consistently shown that in the United States criminal behavior peaks in adolescence and gradually declines thereafter. Most explanations for this note that adolescents and young adults most likely seek autonomy through involvement with

deviant peer groups, whereas deviant peer involvement behavior diminishes as the individual ages (Hirschi & Gottfredson, 1983). Correspondingly it is conceivable that older persons will be more receptive to rehabilitative policy interventions such as drug courts. Another explanation for this among the substance-abusing population may be that over time individuals become tired of their addicted lifestyles (Saxon, Wells, Fleming, Jackson, & Calsyn, 1996). Several studies report that older participants stay in treatment longer than younger participants (Mammo & Weinbaum, 1991; Sansone, 1980; Saxon et al., 1996).

Race/Ethnicity. Studies assessing race and treatment outcome have produced different results. Several conclude that race is a significant factor (Steer, 1980; Sansone, 1980; Saxon et al., 1996), while others do not support any relationship (Condelli & Hubbard, 1994; McFarlain, Cohen, Yoder, & Guirdy, 1977). Mammo and Weinbaum (1993) found that it is more likely for white and “other” race/ethnic groups than black and Hispanics to complete treatment. However, as with their gender research they found that when confounding variables such as, social, demographic, and economic variables were controlled, race is no longer significant.

Substance Abuse History. Remple and DeStefano (2001) found that addiction severity based on self-reported amount, duration, and frequency of use of multiple illegal drugs had no effect on whether the individuals were more likely to drop out of treatment. The researchers did, however, find that the primary drug of choice did have a significant effect. The researchers found that individuals with the primary drug being heroin were more likely to drop out while a primary drug of crack was significant in predicting retention, not dropout (Remple & DeStefano, 2001).

CHAPTER 3 METHODOLOGY

This chapter will discuss the methods used in the present study to measure the various constructs described earlier and show any relationships between them. The topics that are addressed are research design, participants, instrumentation, procedures and data analysis, and statistical analysis methods.

Research Design

This was an ex-post facto cross-sectional research design using a convenience sample at the Corner Drug Store, Inc outpatient services Drug Court program. Participants were asked to complete the SCS-SA, MSPSS, the Adapted AASE, and a demographic questionnaire.

Participants

The study consisted of 40 participants currently receiving treatment services at Corner Drug Store, an outpatient treatment center contracted with the Alachua County Drug Court program, in Gainesville, FL. The participants are nonviolent drug offenders. The Drug Court program is a pretrial intervention that offers the participants the chance to get their charges dropped by completing the program. Participation in the study was voluntary. Historically, most of the participants seem to fall within two ethnic groups: European-American and African-American. However, because there were no Hispanics or Native Americans self-identified, ethnicity was grouped as white or non-white. The age of the participants ranged from 19 to 51 ($M = 29.98$, $SD = 9.49$). Length of time in

the program ranged from 21 to 910 days ($M = 204.58$, $SD = 194.36$). Participants reported abusing substances from 0 years to 32 years ($M = 11.73$, $SD = 8.61$).

The treatment consists of three phases with the participants advancing from phase to phase by meeting certain goals and standards. The first phase serves as a detoxification period and is a minimum of 30 to 45 days. Phase 1 consists of four, one-hour group sessions per week, case management, urinalysis drops, acupuncture, and individual sessions on an as needed basis. To move from the first phase to the second the participant must maintain twenty-one days continuous, drug-free urine drops, and receives approval from the treatment team.

The second phase is the primary treatment phase in which the participant has reached a basic level of sobriety and can focus on the issues identified in treatment. Phase 2 is a minimum of six months and consists of two, one-hour group sessions per week, case management, urinalysis drops, and individual sessions as needed. To move from Phase 2 to Phase 3 the participant must remain continually drug free for ninety days, be gainfully employed or in an educational program, meet their treatment goals, and be compliant with all program requirements.

The third phase is the transition phase where the participant is given more freedom and personal responsibility. Phase 3 is a minimum of four months and consists of one, one-hour group session, case management, urinalysis drops, and individual sessions as needed. To be eligible to graduate from the program the participant must maintain six months of continued sobriety.

Measures

Stages of Change Scale-Substance Abuse (SCS-SA). The SCS-SA scale was developed to measure the stages of change identified by DiClemente and Prochaska

(Cardoso, Chan, Berven & Thomas, 2003). The scale consists of 37 items, with responses given on a five-point Likert scale. See Appendix A. The SCS-SA consisted of four subscales: Participation, Relapse, Determination, and Precontemplation, determined by exploratory factor analysis. The alpha coefficients for the four subscales were calculated. For the Participation, Relapse, Determination, and Precontemplation factors the values were as follows: .93, .73, .85, and .79, respectively. For the SCS-SA, support for the validity of the instrument was derived by means of exploratory factor analysis and cluster analysis (Cardoso et al.).

Internal consistency for the subscales of the SCS-SA for this study was demonstrated to be acceptable. Cronbach's alpha for the Participation, Relapse, Determination, and Precontemplation factors were as follows: .85, .75, .87, and .71, respectively.

Alcohol Abstinence Self-Efficacy Scale (AASE). The scale consists of 49 items related to drinking (DiClemente, Carbonari, Montgomery, & Hughes, 1993). Participants are asked to answer how "tempted" they would be to drink in each situation on a five-point Likert scale (not at all = 1 to extremely = 5). The participants are also asked to rate how "confident" they are that they would not drink in a particular situation on a similar 5-point Likert scale. Scores are added separately for self-efficacy and temptation. Similar scales have been developed for smoking and other addictive behaviors have demonstrated relevance and solid psychometric properties (DiClemente, 1986). Initial reliability and validity estimates for this scale demonstrated high internal consistency (.95) and a substantial negative correlation ($r = -.58$) between temptation and self-efficacy (DiClemente et al.).

Hiller, Broome, Knight, and Simpson (2000) adapted the AASE so that it could be used for the general use of drugs rather than solely for alcohol use. The Adapted AASE contains 40 items. The inventory measures self-rated confidence and temptation for 20 “high-risk” situations, comprising four conceptual categories (i.e., Negative Affect, Social/Positive, Physical, and Other Concerns, and Cravings and Urges). See Appendix B. Exploratory and confirmatory factor analysis were involved in the validation of the Adapted AASE. Internal consistency for the subscales ranged from .72 to .92. Hiller et al. used a multi-trait, multi-method matrix design to evaluate the Adapted AASE’s construct validity. They found strong inverse relationships between the efficacy and temptation scales lending credence to the construct validity of this scale.

Internal consistency for the subscales of the Adapted AASE for this study was demonstrated to be acceptable. Cronbach’s alpha for the Temptation subscales of Negative Affect, Social/Positive, Physical and Other Concerns, and Cravings and Urges were as follows: .85, .83, .73, and .82, respectively. Cronbach’s alpha for the Confidence subscales of Negative Affect, Social/Positive, Physical and Other Concerns, and Cravings and Urges were as follows: .94, .84, .87, and .92, respectively.

Multidimensional Scale of Perceived Social Support (MSPSS). The MSPSS is a 12 item, self-report measure that addresses the subjective assessment of social support adequacy (Zimet, Dahlem, Zimet, & Farley, 1988). The MSPSS also assess perceptions of social support adequacy from three specific sources: Family, Friends and Significant Other. Each of the groups consists of four items and is answered on a seven-point Likert scale. See Appendix C. Cronbach’s coefficient alpha was found for the scale as a whole as well as for each individual subscale. For the Significant Other, Family, and Friends

subscales, the values were .91, .87, and .85, respectively. The reliability of the total scale was .88. Zimet et al. retested 69 of 275 subjects 2 to 3 months after having initially completed the questionnaire. The test-retest reliability for the Significant Other, Family, and Friends were .72, .85, and .75, respectively. For the whole scale, the value obtained was .85. Similar findings concerning the MSPSS were found by Zimet, Powell, Farley, Werkman, and Berkoff (1990). Zimet et al. (1990) found evidence of the predictive validity of MSPSS subscales by administering the MSPSS to various sets (e.g., married participants reflected higher significant other scores than single participants).

Internal consistency for the MSPSS and subscales for this study were demonstrated to be acceptable. Cronbach's alpha for the subscales of Significant Others, Family, and Friends were as follows: .76, .96, and .84, respectively. Cronbach's alpha for the MSPSS total was .86.

Demographics. There were several demographic items that participants were asked pertaining to age, ethnicity, gender, phase in program, length of time in the program and how long they have been using. See Appendix D.

Data Collection Procedure

The instruments were given to the participants while they were in their treatment groups. The participants were observed while answering the instruments by the researcher or another Corner Drug Store counselor. The participants were not allowed to talk to one another while answering the instrument questions. There was no identifying data collected. Informed consent forms with signatures were separated from the answered instruments. All instruments will be numbered in order to keep track of which measures go together. It took approximately 30- 40 minutes to answer all four measures

to be completed. The researcher or the counselor collected the instruments in order to be analyzed.

Data Analysis

Analyses related to Research Question One

A series of ANOVAs were conducted to calculate the relationship of treatment phase to the SCS-SA, MSPSS, and Adapted AASE scores.

Analyses related to Research Question Two

For demographic data that are continuous, such as age, length of time in the program, and length of time using drugs or alcohol, Pearson product-moment correlation coefficients were calculated to show the relationships between the demographic variables and the three measures. A series of ANOVAs were conducted to calculate the relationships of the categorical data such as, drug of choice, and ethnicity to the three measures.

CHAPTER 4 RESULTS

Results for Question One

Stages of change. A series of one-way ANOVAs conducted for the subscales of the SCS-SA (Precontemplation, Determination, Participation, Relapse) in regards to the phase of treatment yielded no significant differences (see Table 4.2).

Scores on the SCS-SA Precontemplation subscale did not differ between Phase I ($M=2.13$, $SD=.81$), Phase II ($M=2.01$, $SD=.64$), and Phase III ($M=1.85$, $SD=.52$; $F(2,35)=.44$, $p=.65$, ns). Scores on the SCS-SA Determination subscale did not differ between Phase I ($M=3.80$, $SD=.80$), Phase II ($M=4.22$, $SD=.64$), and Phase III ($M=4.19$, $SD=.363$; $F(2,35)=1.60$, $p=.21$, ns). Scores on the SCS-SA Participation subscale did not differ between Phase I ($M=3.44$, $SD=.67$), Phase II ($M=3.86$, $SD=.43$), and Phase III ($M=3.96$, $SD=.46$; $F(2,31)=2.79$, $p=.08$, ns). Scores on the SCS-SA Relapse subscale did not differ between Phase I ($M=2.24$, $SD=.70$), Phase II ($M=2.13$, $SD=.77$), and Phase III ($M=1.80$, $SD=.33$; $F(2,33)=1.11$, $p=.34$, ns).

The variable phase in treatment thus appeared to have no direct relationship with the stage of change the individual is in. It was hypothesized that the higher the phase of treatment the individual was in the further along in the stages of change the individual would be in. No significant relationship was found between the scores on the SCS-SA subscales and the phase in treatment.

Social support. A series of one-way ANOVAs conducted for the MSPSS and subscales (Significant Others, Family, Friends, MSPSS total) in regards to the phase in treatment yielded no significant differences (see Table 4.1).

Scores on the MSPSS Significant Other subscale did not differ between Phase I ($M=5.75$, $SD=1.20$), Phase II ($M=5.64$, $SD=1.46$), and Phase III ($M=6.25$, $SD=.58$; $F(2,37)=.90$, $p=.42$, ns). Scores on the MSPSS Family subscale did not differ between Phase I ($M=4.75$, $SD=2.30$), Phase II ($M=5.57$, $SD=1.87$), and Phase III ($M=5.57$, $SD=.975$; $F(2,36)=.77$, $p=.47$, ns). Scores on the MSPSS Friend subscale did not differ between Phase I ($M=4.83$, $SD=1.73$), Phase II ($M=4.61$, $SD=1.51$), and Phase III ($M=5.07$, $SD=1.18$; $F(2,37)=.34$, $p=.71$, ns). Scores on the MSPSS total scale did not differ between Phase I ($M=5.11$, $SD=1.27$), Phase II ($M=5.29$, $SD=1.22$), and Phase III ($M=5.63$, $SD=.60$; $F(2,36)=.62$, $p=.54$, ns).

The variable of phase in treatment thus appeared to have no direct relationship with the amount of social support the individual perceived. It was hypothesized that the higher the phase of treatment the individual was in the more social support the individual would perceive in their life. No significant relationship was found between the scores on the MSPSS and the phase in treatment.

Self-efficacy. A series of one-way ANOVAs conducted for the subscales of the Adapted AASE (Temptation- Negative Affect, Temptation- Social/Positive, Temptation- Physical and Other Concerns, Temptation- Cravings and Urges, Confidence- Negative Affect, Confidence- Social/Positive, Confidence- Physical and Other Concerns, Confidence- Cravings and Urges) in regards to the phase of treatment also yielded no differences (see Table 4.3).

Scores on the adapted AASE Temptation- Negative Affect subscale did not differ between Phase I ($M=2.69$, $SD=1.29$), Phase II ($M=2.35$, $SD=1.14$), and Phase III ($M=2.20$, $SD=.74$; $F(2,34)=.53$, $p=.59$, ns). Scores on the adapted AASE Temptation- Social/Positive subscale did not differ between Phase I ($M=2.57$, $SD=1.20$), Phase II ($M=2.09$, $SD=1.17$), and Phase III ($M=2.42$, $SD=1.06$; $F(2,37)=.69$, $p=.51$, ns). Scores on the adapted AASE Temptation- Physical and Other Concerns subscale did not differ between Phase I ($M=1.70$, $SD=.69$), Phase II ($M=1.89$, $SD=.96$), and Phase III ($M=1.85$, $SD=.79$; $F(2,37)=.17$, $p=.84$, ns). Scores on the adapted AASE Temptation- Cravings and Urges subscale did not differ between Phase I ($M=2.18$, $SD=1.15$), Phase II ($M=1.84$, $SD=.79$), and Phase III ($M=2.15$, $SD=.84$; $F(2,37)=.63$, $p=.54$, ns).

Scores on the adapted AASE Confidence- Negative Affect subscale did not differ between Phase I ($M=2.73$, $SD=1.54$), Phase II ($M=2.82$, $SD=1.43$), and Phase III ($M=3.70$, $SD=.87$; $F(2,36)=1.91$, $p=.16$, ns). Scores on the adapted AASE Confidence- Social/Positive subscale did not differ between Phase I ($M=2.87$, $SD=1.20$), Phase II ($M=2.91$, $SD=1.37$), and Phase III ($M=3.67$, $SD=1.01$; $F(2,36)=1.55$, $p=.23$, ns). Scores on the adapted AASE Confidence- Physical and Other Concerns subscale did not differ between Phase I ($M=2.77$, $SD=1.55$), Phase II ($M=2.91$, $SD=1.45$), and Phase III ($M=3.61$, $SD=.95$; $F(2,36)=1.24$, $p=.30$, ns). Scores on the adapted AASE Confidence- Cravings and Urges subscale did not differ between Phase I ($M=3.02$, $SD=1.47$), Phase II ($M=2.88$, $SD=1.48$), and Phase III ($M=3.40$, $SD=1.02$; $F(2,35)=.51$, $p=.61$, ns).

The variable of phase in treatment thus appeared to have no direct relationship with the self-efficacy of the individual. It was hypothesized that the higher the phase of treatment the individual was in the more self-efficacy would be found. No significant

relationship was found between the scores on the Adapted AASE and the phase in treatment.

Results for Research Question 2

Age. There were no significant correlations found between age and the MSPSS or its subscales. A significant correlation was found between age and the SCS-SA Participation subscale, $r = .398$, $n = 34$, $p < .05$, two tails. Older age was associated with being in the Participation subscale. There were no other significant correlations found within the SCS-SA. The only significant correlation found within the Adapted AASE was found on the Confidence- Cravings and Urges subscale, $r = .346$, $n = 38$, $p < .05$, two tails. Older age was associated with a higher confidence against cravings and urges. Correlations reported in Table 4.4.

Length of time using drugs or alcohol. There were no significant correlations found between length of time using drugs or alcohol and the MSPSS or its subscales. A correlation for the data revealed that the length of time using drugs and alcohol and the SCS-SA Participation subscale were significantly correlated, $r = .476$, $n = 34$, $p < .01$, two tails. The longer an individual has used drugs or alcohol was associated with the higher Participation subscale score. A correlation for the data revealed that the length of time using drugs and alcohol and the SCS-SA Determination subscale were significantly related, $r = .389$, $n = 38$, $p < .05$, two tails. The longer an individual has used drugs or alcohol was associated with the higher Determination subscale score. The only significant correlation found within the Adapted AASE was found on the Temptation- Cravings and Urges subscale, $r = .346$, $n = 38$, $p < .05$, two tails. Older age was associated with a higher temptation to use when in situations concerning cravings and urges. Correlations reported in Table 4.4.

Length of time in the program. There were no significant correlations found between length of time in the program and the MSPSS or its subscales, the SCS-SA, or the Adapted AASE. Correlations are reported in Table 4.4.

Drug of Choice. A series of one-way ANOVAs conducted for the MSPSS and its subscales in regards to the individual's drug of choice yielded no significant differences (see Table 4.5). The variable of drug of choice thus appeared to have no direct relationship with the amount of perceived social support. No significant relationship was found between the scores on the SCS-SA and the individual's drug of choice.

A series of one-way ANOVAs conducted for the subscales of the SCS-SA in regards to the individual's drug of choice yielded a significant difference in the Participation subscale $F(3,30) = 11.809, p < .01$ (see Table 4.6). Post-hoc comparisons using a Bonferroni correction indicated that the mean score for Alcohol ($M = 3.06, SD = .421$) was significantly different from Coke/Crack ($M = 4.23, SD = .343$). Alcohol also was significantly different from Heroin/Opiates ($M = 4.06, SD = .289$). Alcohol did not differ significantly from Marijuana ($M = 3.56, SD = .419$); neither did Coke/Crack differ significantly from Heroin/Opiates or Marijuana. The mean score for Marijuana was significantly different from Coke/Crack. Marijuana was not, however, significantly different from Heroin/Opiates. A series of one-way ANOVAs yielded a significant difference in the Determination stage of change $F(3,34) = 3.400, p < .05$. A Bonferroni post-hoc analysis did not yield any significant differences between the particular drug of choice and the SCS-SA Determination subscale.

A series of one-way ANOVAs conducted for the subscales of the Adapted AASE in regards to the individual's drug of choice also yielded no differences (see Table 4.7).

The variable of drug of choice thus appeared to have no direct relationship with the self-efficacy of the individual. No significant relationship was found between the scores on the Adapted AASE and the individual's drug of choice.

Ethnicity. Ethnicity, for the purpose of this study was reported as either white or non-white. A series one-way ANOVAs for the MSPSS and its subscales (Significant Others, Family, Friends, and MSPSS total) and ethnicity were conducted (see Table 4.8). No significance was found between white and non-white groups with the Family subscale. A significant difference was found between White ($M=6.26$, $SD=.65$) and Non-White ($M=5.37$, $SD=1.51$; $F(1,38) = 6.131$, $p < .05$) in the MSPSS Significant Others subscale scores. A significant difference was also found between White ($M=5.61$, $SD=1.24$) and Non-White ($M=3.88$, $SD= 1.13$; $F(1,38) = 21.001$, $p < .01$) in the MSPSS Friends subscale scores. A significant difference was also found between White ($M=5.86$, $SD=.82$) and Non-White ($M=4.74$, $SD=1.07$; $F(1,37)= 13.712$, $p < .01$) in the MSPSS total scale scores. It appeared that White participants were more likely to have higher scores on the MSPSS Significant Others and Friends subscales, as well as the MSPSS total score.

A series of one-way ANOVAs for the SCS-SA subscales (Precontemplation, Determination, Participation, and Relapse) and ethnicity were conducted. No significance was found between white and non-white groups with the Precontemplation, Determination, and Participation scores. A significant difference was found between White ($M=1.83$, $SD=.55$) and Non-White ($M=2.34$, $SD=.71$; $F(1,34) = 5.838$, $p < .05$) in the SCS-SA Relapse subscale scores (see Table 4.9). It appeared that Non-White participants were more likely to have higher scores on the SCS-SA Relapse subscale.

A series of one-way ANOVAs for the Adapted AASE subscales (Temptation-Negative Affect, Temptation- Social/Positive, Temptation- Physical and Other Concerns, Temptation- Cravings and Urges, Confidence- Negative Affect, Confidence- Social/Positive, Confidence- Physical and Other Concerns, Confidence- Cravings and Urges) and ethnicity were conducted. No significance was found between white and non-white groups with the Temptation-Negative Affect, Temptation- Social/Positive, or Temptation- Cravings and Urges subscales. A significant difference was found between White ($M=2.08$, $SD=.88$) and Non-White ($M=1.56$, $SD=.72$; $F(1,38) = 4.12$, $p < .05$) in the adapted AASE Temptation- Physical and Other Concerns subscale scores. A significant difference was found between White ($M=3.56$, $SD=1.13$) and Non-White ($M=2.50$, $SD=1.39$; $F(1,37) = 6.87$, $p < .05$) in the adapted AASE Confidence- Negative Affect subscale scores. A significant difference was found between White ($M=3.50$, $SD=1.21$) and Non-White ($M=2.70$, $SD=1.20$; $F(1,37) = 4.28$, $p < .05$) in the adapted AASE Confidence- Social/Positive subscale scores. A significant difference was found between White ($M=3.49$, $SD=1.08$) and Non-White ($M=2.57$, $SD=1.52$; $F(1,37) = 4.815$, $p < .05$) in the adapted AASE Confidence- Physical and Other Concerns subscale scores. A significant difference was found between White ($M=3.47$, $SD=1.17$) and Non-White ($M=2.61$, $SD=1.41$; $F(1,36) = 4.223$, $p < .05$) in the adapted AASE Confidence- Cravings and Urges subscale scores (see Table 4.10). It appeared that White participants were more likely to have higher scores on the Adapted AASE Temptation- Physical and Other Concerns, Confidence- Negative Affect, Confidence- Social/Positive, Confidence- Physical and Other Concerns, and Confidence- Cravings and Urges subscales

Gender. Analyses of gender were not calculated due to the small number of females in the study.

Table 4-1 MSPSS and Subscales Analyses of Variance for Phase in Treatment

Source	<i>Df</i>	<i>F</i>	η^2	<i>p</i>
MSOTH	39	.898	.05	.416
MSFAM	38	.771	.04	.470
MSFRND	39	.341	.02	.713
MSTOT	38	.618	.03	.544

Note: MSPSS = Multidimensional Scale of Perceived Social Support; MSOTH = Significant Others; MSFAM = Family; MSFRND = Friends; MSTOT = Total * $p < .05$, ** $p < .01$

Table 4-2 SCS-SA Subscales Analyses of Variance for Phase in Treatment

Source	<i>Df</i>	<i>F</i>	η^2	<i>p</i>
SOCPART	33	2.790	.15	.077
SOCRELPS	35	1.106	.06	.343
SOCDETER	37	1.595	.08	.217
SOCPREC	37	.440	.03	.647

Note: SCS-SA = Stages of Change Scale-Substance Abuse; SOCPART = Participation; SOCRELPS = Relapse; SOCDETER = Determination; SOCPREC = Precontemplation * $p < .05$, ** $p < .01$

Table 4-3 Adapted AASE Subscales Analyses of Variance for Phase in Treatment

Source	<i>Df</i>	<i>F</i>	η^2	<i>p</i>
TEMPNEG	36	.529	.03	.594
TEMPPOS	39	.692	.04	.507
TEMPPHY	39	.172	.01	.843
TEMPCRV	39	.634	.03	.536
CONFNEG	38	1.906	.10	.163
CONFPOS	38	1.548	.08	.227
CONFPHY	38	1.236	.06	.303
CONFCRV	37	.509	.03	.605

Note: Adapted AASE = Adapted Alcohol Abstinence Self-Efficacy Scale; TEMPNEG = Temptation- Negative Affect; TEMPPOS = Temptation- Social/Positive; TEMPPHY = Temptation- Physical and Other Concerns; TEMPSCRV = Temptation- Cravings and Urges; CONFNEG = Confidence- Negative Affect; CONFPOS = Confidence- Social/Positive; CONFPHY = Confidence- Physical and Other Concerns; CONFSCRV = Confidence- Cravings and Urges; * $p < .05$, ** $p < .01$

Table 4-4 Two-Tail Inter-Correlation Matrix between Demographic Variables and Three Measures

Variable	Age	Use Time	Time
Use Time	.704* (.000) 40		
Time	.154 (.344) 40	.151 (.353) 40	
MSOTH	-.185 (.254) 40	-.192 (.234) 40	.007 (.968) 40
MSFAM	-.087 (.600) 39	-.212 (.195) 39	.064 (.700) 39
MSFRND	.163 (.316) 40	.141 (.386) 40	-.080 (.622) 40
MSTOT	-.035 (.834) 39	-.112 (.496) 39	.006 (.970) 39
SOCPART	.398* (.020) 34	.476** (.004) 34	.232 (.187) 34
SOCRELPS	-.161 (.349) 36	-.199 (.244) 36	-.076 (.659) 36
SOCDETER	.309 (.059) 38	.389* (.016) 38	.015 (.929) 38
SOCPREC	.117 (.486) 38	.114 (.495) 38	-.016 (.924) 38
TEMPNEG	.174 (.303) 37	.322 (.052) 37	-.195 (.247) 37
TEMPPOS	.015 (.929) 40	.207 (.200) 40	-.029 (.857) 40
TEMPPHY	.147 (.366) 40	.262 (.103) 40	-.098 (.548) 40

Table 4-4 Continued

Variable	Age	Use Time	Time
TEMPCRV	.116 (.474) 40	.351* (.026) 40	-.024 (.885) 40
CONFNEG	.243 (.136) 39	.100 (.546) 39	.162 (324) 39
CONFPOS	.259 (.111) 39	.058 (.727) 39	.135 (.413) 39
CONFPHY	.255 (.117) 39	.135 (.411) 39	.145 (.379) 39
CONFCRV	.346* (.033) 38	.158 (.345) 38	.029 (.862) 38

Note: p-values are in parentheses: * $p < .05$, ** $p < .01$; Row under p-values is sample size (n) for specific correlation. Use Time = length of time using drugs or alcohol; Time = length of time in the program; MSPSS = Multidimensional Scale of Perceived Social Support; MSOTH = MSPSS Significant Others; MSFAM = MSPSS Family; MSFRND = MSPSS Friends; MSTOT = MSPSS Total; SCS-SA = Stages of Change Scale-Substance Abuse; SOCPART = SCS-SA Participation; SOCRELPS = SCS-SA Relapse; SOCDETER = SCS-SA Determination; SOCPREC = SCS-SA Precontemplation; Adapted AASE = Adapted Alcohol Abstinence Self-Efficacy Scale; TEMPNEG = Adapted AASE Temptation- Negative Affect; TEMPPOS = Adapted AASE Temptation-Social/Positive; TEMPPHY = Adapted AASE Temptation- Physical and Other Concerns; TEMPGRV = Adapted AASE Temptation- Cravings and Urges; CONFNEG = Adapted AASE Confidence- Negative Affect; CONFPOS = Adapted AASE Confidence-Social/Positive; CONFPHY = Adapted AASE Confidence- Physical and Other Concerns; CONFCRV = Adapted AASE Confidence- Cravings and Urges

Table 4-5 MSPSS and Subscales Analyses of Variance for Drug of Choice

Source	df	F	η^2	p
MSOTH	39	.721	.06	.546
MSFAM	38	2.237	.16	.101
MSFRND	39	2.058	.14	.123
MSTOT	38	1.733	.02	.178

Note: MSPSS = Multidimensional Scale of Perceived Social Support; MSOTH = Significant Others; MSFAM = Family; MSFRND = Friends; MSTOT = Total * $p < .05$, ** $p < .01$

Table 4-6 SCS-SA Subscales Analyses of Variance for Drug of Choice

Source	<i>df</i>	<i>F</i>	η^2	<i>p</i>
SOCPART	33	11.809	.55	.000**
SOCRELPS	35	1.927	.15	.145
SOCDETER	37	3.400	.23	.029*
SOCPREC	37	.022	.00	.995

Note: SCS-SA = Stages of Change Scale-Substance Abuse; SOCPART = Participation; SOCRELPS = Relapse; SOCDETER = Determination; SOCPREC = Precontemplation
* $p < .05$, ** $p < .01$

Table 4-7 Adapted AASE Subscales Analyses of Variance for Drug of Choice

Source	<i>df</i>	<i>F</i>	η^2	<i>p</i>
TEMPNEG	36	1.079	.09	.371
TEMPPOS	39	1.264	.10	.301
TEMPPHY	39	.873	.07	.464
TEMPCRV	39	1.050	.08	.382
CONFNEG	38	1.981	.14	.135
CONFPOS	38	1.962	.14	.138
CONFPHY	38	2.743	.19	.058
CONFCRV	37	1.207	.10	.322

Note: Adapted AASE = Adapted Alcohol Abstinence Self-Efficacy Scale; TEMPNEG = Temptation- Negative Affect; TEMPPOS = Temptation- Social/Positive; TEMPPHY = Temptation- Physical and Other Concerns; TEMPSCRV = Temptation- Cravings and Urges; CONFNEG = Confidence- Negative Affect; CONFPOS = Confidence- Social/Positive; CONFPHY = Confidence- Physical and Other Concerns; CONFSCRV = Confidence- Cravings and Urges; * $p < .05$, ** $p < .01$

Table 4-8 MSPSS and Subscales Analyses of Variance for Ethnicity

Source	<i>df</i>	<i>F</i>	η^2	<i>p</i>
MSOTH	39	6.131	.14	.018*
MSFAM	38	1.712	.04	.199
MSFRND	39	21.001	.36	.000**
MSTOT	38	13.712	.27	.001**

Note: MSPSS = Multidimensional Scale of Perceived Social Support; MSOTH = Significant Others; MSFAM = Family; MSFRND = Friends; MSTOT = Total * $p < .05$, ** $p < .01$

Table 4-9 SCS-SA Subscales Analyses of Variance for Ethnicity

Source	<i>df</i>	<i>F</i>	η^2	<i>p</i>
SOCPART	33	.782	.02	.383
SOCRELPS	35	5.838	.14	.021*
SOCDETER	37	3.345	.08	.076
SOCPREC	37	1.967	.05	.169

Note: SCS-SA = Stages of Change Scale-Substance Abuse; SOCPART = Participation; SOCRELPS = Relapse; SOCDETER = Determination; SOCPREC = Precontemplation
* $p < .05$, ** $p < .01$

Table 4-10 Adapted AASE Subscales Analyses of Variance for Ethnicity

Source	<i>df</i>	<i>F</i>	η^2	<i>p</i>
TEMPNEG	36	.492	.01	.488
TEMPPOS	39	3.114	.08	.086
TEMPPHY	39	4.124	.10	.049*
TEMPCRIV	39	.716	.02	.403
CONFNEG	38	6.871	.16	.013*
CONFPOS	38	4.282	.10	.046*
CONFPHY	38	4.815	.12	.035*
CONFCRIV	37	4.223	.10	.047*

Note: Adapted AASE = Adapted Alcohol Abstinence Self-Efficacy Scale; TEMPNEG = Temptation- Negative Affect; TEMPPPOS = Temptation- Social/Positive; TEMPPHY = Temptation- Physical and Other Concerns; TEMPCRIV = Temptation- Cravings and Urges; CONFNEG = Confidence- Negative Affect; CONFPOS = Confidence- Social/Positive; CONFPHY = Confidence- Physical and Other Concerns; CONFCRIV = Confidence- Cravings and Urges; * $p < .05$, ** $p < .01$

CHAPTER 5 DISCUSSION

Summary

Prochaska and DiClemente (1982, 1986) developed the Transtheoretical Model to depict the process of change. It was hypothesized that the cessation of a problem behavior and therefore the acquisition of a healthier behavior involved a progression through five stages: precontemplation, contemplation, preparation, action, and maintenance (Abellanas & McLellan, 1993). The change is believed to happen in increments and involves detailed and varied tasks throughout the process (DiClemente and Prochaska, 1985, 1998). These stages have been used to understand the process of stopping problem behaviors, such as cessation of smoking and other addictive behaviors (Snow et al., 1992).

Sobell et al. (1993) found that the greatest single factor with maintaining recoveries for alcohol abusers is that of social support, particularly from family and friends. Social support also has been found to be a crucial component in a successful drug treatment program (Caplan & Killilea, 1976). In terms of relapse potential, Havassy et al. (1991) found that social integration and abstinence-specific functional support predicted lower risk of relapse to tobacco, alcohol, and opiates.

DiClemente (1986) showed self-efficacy to pertain to an individual's perceptions of his or her ability to mobilize necessary motivation, knowledge, and behavior to control or abstain from use of alcohol or other drugs. Efficacy beliefs are thought to affect all the phases of personal change from whether to change the behavior at all, to whether the

individual succeeds at initiating the change, to whether the change is successfully maintained. In the case of addictive behaviors maintaining the change over time is the major problem (Bandura, 1992).

Findings

Research Question One. It was hypothesized that as a participant moved through the phases of treatment they should also be moving through the various stages of change as theorized by Prochaska and DiClemente (1982, 1986). The other hypotheses explored in this study were that as the participants moved through the phases of treatment they should also gain more motivation (self-efficacy) to change and build a more positive social support system. The evidence in this study does not support any of the three hypotheses. There are many reasons for which these hypotheses may not have been proven. The participants in this study could have simply been answering the questions, as they believed they should be. Another possibility is the scales may not have been appropriate for this particular treatment program. Practically, clients that undergo a relapse generally are not returned to an earlier phase of treatment (for example, if an individual relapses while in Phase 3 they remain in Phase 3, albeit they may stay in that phase longer than initially expected).

Research Question Two. The second question in this study sought out to find any relationships between demographic variables and the three measures.

Age. For the variable of age a significant correlation was found with the Participation stage of change. This appears to signify that the older a participant is and the longer he or she has been using, the more they are actually working on making changes to their substance use problem. The participants in the Participation stage of change have moved past their denial of a problem and into a movement towards change.

There may be many reasons for this finding, such as Janis and Mann's (1977) concept of "bottoming out" following long-time use and experiences of personal failure lead to increased desire for treatment. Additional research is needed for clarification between these variables.

A significant correlation could not be found between age and the MSPSS or its subscales, however the findings are not conclusive and additional research may be able to find a relationship. As expected, age was not significantly correlated to the temptation to use.

A significant correlation was also found between age and having confidence against cravings and urges. The older participants appear to deal more effectively with cravings and urges to use than the younger participants.

Length of time using drugs or alcohol. There were no significant correlations between length of time using drugs or alcohol and the MSPSS or its subscales.

As discussed earlier, a significant correlation was found between age and the Participation stage of change. There are similar correlations between length of use and the Participation and Determination subscales. There is a strong relationship between age and length of time using drugs or alcohol. This is consistent with the notion that older individuals with substance use problems have used those substances for a longer period of time than younger substance-using individuals.

There were no significant correlations between the length of time using drugs or alcohol and the confidence subscales on the adapted AASE. A significant correlation was found between the length of time using drugs or alcohol and the Temptation-Cravings and Urges subscale.

Length of time in the program. There were no significant correlations between length of time in the program and any of the three scales. This finding was unexpected and could be due to response bias, inappropriateness of scales, or lack of effective treatment.

Drug of choice. A significant relationship was found between drug of choice and both the Participation and Determination stage of change. When looking at the differences between stages of change and substance abuse three significant differences were found in the Participation stage of change, alcohol and heroin/opiates, alcohol and crack/cocaine, and between marijuana and crack/cocaine. This current study does not account for this finding; further exploration of this topic appears to be needed. There were no significant differences between the individual groups in the Determination stage of change however, overall there appears to be a statistical difference. A reason for this may be a small effect size for the scale.

This study found no evidence of any relationship between drug of choice and the MSPSS and its subscales, as well as between drug of choice and the adapted AASE and subscales. This finding shows that the participant's drug of choice appears to have no bearing on how much social support they perceive themselves to have.

Ethnicity. A significant relationship was found between ethnicity and Significant Others, Friends, and the MSPSS total score. It appears that Non-White participants reported lower perceived social support than the White participants with regard to significant others, friends and social support in general. There were no statistically significant differences between White and Non-White participants pertaining to family-related social support scores.

A significant relationship was found between ethnicity and the SCS-SA Relapse subscale. According to this study it appears that Non-White participants reported a higher relapse potential than White participants. There were no statistically significant differences between White and Non-White participants regarding the Precontemplation, Determination, and Participation subscales.

Limitations

Some of the limitations to this study include the use of a convenience sample, a small sample size, and possible response bias (non-forthright responses by participants). It is not possible to make any assumptions about the effectiveness of the treatment program due to the size of the sample and because different results may be found with another future group of participants. There may be difference between counselors and the clients (counselors are female and White, clients are mostly male and equally divided between White and Non-White). There is no attempt to control for dual-diagnosis or socioeconomic status so it is uncertain what kind of effect they have on the variables studied. There was not a large enough gender difference to do analyses. The results may not be generalizable to other Drug Court programs because of the small sample size. No statements of causality could be made.

Further Research

Future research may want to use a larger sample to have a greater effect size. More questions could also be added to the Demographics Questionnaire to control for even more variables such as, number of prior treatment admissions, socioeconomic status, and how long they spent in each individual phase. Future research can look at the effect of dual diagnosis on the variables studied. Also, analyses of gender could not be correlated in this study due to the small number of females; it would be beneficial to find a sample

that could use gender as a variable. This study could also be repeated at Corner Drug Store with a new sample of clients to see if the findings can be reproduced. Research could also be conducted at other drug treatment centers to find out if the data is generalizable. It was noted that there were differences in scores with regards to ethnicity, additional research might want to control for ethnic differences. Additional research is needed to study the differences between and within ethnic groups. Similarly, it was noted that there were differences between groups that used particular substances. Additional research is needed to study the differences between and within groups that use distinct substances. Future research can look at the effect of dual diagnosis on the variables studied.

APPENDIX A
STAGES OF CHANGE-SUBSTANCE ABUSE

Please indicate the extent to which you tend to agree or disagree with each statement. In each case, make your choice in terms of how you feel **right now**, not what you have felt in the past or would like to feel. For all the statements that refer to your **problem**, answer in terms of your **alcohol or other drug problem**. And **here** refers to the place of treatment of the program.

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

- 1-Strongly Disagree (SD)
- 2-Disagree (D)
- 3-Undecided (U)
- 4-Agree(A)
- 5-Strongly Agree (SA)

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

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1) I think I am ready to work on my alcohol and other drug problem.	1	2	3	4	5
2) I am working on my alcohol and other drug problem, which has been bothering me.	1	2	3	4	5
3) I am gathering information about support groups that will help me stay clean.	1	2	3	4	5
4) I worry that I may slip back to my old habits of taking alcohol and other drugs that I have worked on in treatment; therefore, I am going to continue working on my alcohol and other drug problems.	1	2	3	4	5
5) I am now working on my alcohol and other drug problem.	1	2	3	4	5
6) I have started working on my alcohol and other drug problem but I am not sure that I can do it without help.	1	2	3	4	5

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
7) I feel that my alcohol or other drug problems are serious, I really need to change my ways.	1	2	3	4	5
8) I hope that treatment will help me understand my alcohol or other drug problem.	1	2	3	4	5
9) I may have some alcohol or other drug problems, but there is no reason to change them.	1	2	3	4	5
10) I am socializing less with friends who use alcohol or other drugs.	1	2	3	4	5
11) Sometimes I fail to stay clean and I am here to prevent a relapse.	1	2	3	4	5
12) Although at times, I am unable to change my alcohol or other drug problem, I still continue to work on it.	1	2	3	4	5
13) I feel more positive about treatment.	1	2	3	4	5
14) I hope that I can find a way to solve my alcohol or other drug problem.	1	2	3	4	5
15) Although I have started taking some steps toward working on my alcohol or other drug problem, I may need help from a counselor to continue my progress.	1	2	3	4	5
16) This treatment program may help me with my alcohol or other drug problem.	1	2	3	4	5
17) I need additional support to help me stick with the changes that I have made on my alcohol or other drug problem.	1	2	3	4	5
18) I may be part of the alcohol or other drug problem, but I don't think so.	1	2	3	4	5
19) I hope that the counselors in this program will help me with my alcohol or other drug problem.	1	2	3	4	5
20) All this talk about changing my alcohol or other drug problem is boring. I just want everyone to leave me alone.	1	2	3	4	5
21) I am beginning to explore the best way to change my alcohol or other drug problem.	1	2	3	4	5

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
22) I have problems but so do other people. Why waste the time worrying?	1	2	3	4	5
23) I would rather live with my alcohol or other drug problems than try to change them.	1	2	3	4	5
24) I am surprised that my friends and family think that I have an alcohol or other drug problem.	1	2	3	4	5
25) I had begun to make changes about my alcohol or other drug problem but recently I started using drugs again.	1	2	3	4	5
26) Because I often experienced a relapse, I am not sure that I can ever stay clean for a long period of time.	1	2	3	4	5
27) I have been capable of working on my alcohol or other drug problem but I am not sure I can stay clean on my own.	1	2	3	4	5
28) Although it is hard to work on my alcohol or other drug problem, I continue to work on my problems.	1	2	3	4	5
29) I am trying to build new friendship with people who do not use alcohol or other drugs.	1	2	3	4	5
30) I would like to work on my alcohol or other drug problems but I find it hard to do.	1	2	3	4	5
31) I have been working on changing my alcohol or other drug behaviors but recently I relapsed. This makes me feel that I do not have the skills to stay clean.	1	2	3	4	5
32) It is upsetting, but I think I may have an alcohol or other drug problem again- I thought it was under control.	1	2	3	4	5
33) I am now working on my alcohol or other drug problem.	1	2	3	4	5
34) It may be helpful to work on my alcohol or other drug problem.	1	2	3	4	5

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
35) I am preparing myself to change my problem by listening to other people discuss how they stay clean.	1	2	3	4	5
36) I am beginning to understand the benefits of being in treatment.	1	2	3	4	5
37) I am serious about changing my alcohol or other drug problem.	1	2	3	4	5

APPENDIX B
ADAPTED ALCOHOL ABSTINENCE SELF-EFFICACY SCALE

TCU DCJTC SELF-EFFICACY FORM

Adaptation of the Alcohol-Efficacy Measure (DiClemente)

TO BE COMPLETED BY STAFF: [FORM 187; CARD 01]

PROGRAM #: [6-8]	UNIT #: [9-10]	CLIENT ID#: [11-16]	TODAY'S DATE: MO DAY YR [17-22]
COUNSELOR ID#: [23-25]		SSN: [27-35]	
FORM WAS COMPLETED AT: 01=INTAKE 02=MONTH 1 03=MONTH 3 04=MONTH 6 (EXIT) [36-37]			

PART A: DRUG OF CHOICE

What is your drug of choice? [PLEASE CIRCLE ONLY ONE OF THE FOLLOWING]

1. Alcohol 2. Cocaine or Crack 3. Heroin or other opiates 4. Marijuana 5. Other (specify) _____ [38]

PART B: TEMPTATION TO USE

INSTRUCTIONS: Listed below are a number of situations that tempt some people to use drugs. Based on the drug you listed above, circle only the number that best describes how tempted you would feel to use that drug of choice in each situation at the present time.

How <u>tempted</u> would you feel to use that drug of choice --	NOT AT ALL TEMPTED	NOT VERY TEMPTED	MODERATELY TEMPTED	VERY TEMPTED	EXTREMELY TEMPTED	
1. When you are in agony because of stopping or withdrawing from drug use.....	1	2	3	4	5	[39]
2. When you have a headache.....	1	2	3	4	5	[40]
3. When you are feeling depressed.....	1	2	3	4	5	[41]
4. When you are on vacation and want to relax.....	1	2	3	4	5	[42]
5. When you are concerned about someone.....	1	2	3	4	5	[43]

Continue to Next Page

SELF-EFFICACY FORM (Continued)

How tempted would you feel to use that drug of choice --	NOT AT ALL TEMPTED	NOT VERY TEMPTED	MODER- ATELY TEMPTED	VERY TEMPTED	EXTREMELY TEMPTED	
6. When you are very worried.....	1	2	3	4	5	[44]
7. When you have the urge to try drugs just once to see what happens.....	1	2	3	4	5	[45]
8. When you are being offered drugs in a social situation	1	2	3	4	5	[46]
9. When you dream about using drugs....	1	2	3	4	5	[47]
10. When you want to test your willpower over using drugs	1	2	3	4	5	[48]
11. When you are feeling a physical need or craving for drugs	1	2	3	4	5	[49]
12. When you are physically tired	1	2	3	4	5	[50]
13. When you are experiencing some physical pain or injury	1	2	3	4	5	[51]
14. When you feel like blowing up because of frustration.....	1	2	3	4	5	[52]
15. When you see others using drugs at a bar or at a party	1	2	3	4	5	[53]
16. When you sense everything is going wrong for you	1	2	3	4	5	[54]
17. When people you used to use drugs with encourage you to use drugs	1	2	3	4	5	[55]
18. When you are feeling angry inside	1	2	3	4	5	[56]
19. When you experience an urge or impulse to use drugs that catches you unprepared	1	2	3	4	5	[57]
20. When you are excited or celebrating with others	1	2	3	4	5	[58]

Continue to Next Page

SELF-EFFICACY FORM (Continued)

PART C: CONFIDENCE NOT TO USE

INSTRUCTIONS: Based on the drug that you listed above, circle only the number that best describes how confident you are that you would not use that drug of choice in each situation at the present time.

<u>How confident are you that you would not use that drug of choice –</u>	<u>NOT AT ALL CONFIDENT</u>	<u>NOT VERY CONFIDENT</u>	<u>MODERATELY CONFIDENT</u>	<u>VERY CONFIDENT</u>	<u>EXTREMELY CONFIDENT</u>	
1. When you are in agony because of stopping or withdrawing from drug use.....	1	2	3	4	5	[59]
2. When you have a headache.....	1	2	3	4	5	[60]
3. When you are feeling depressed.....	1	2	3	4	5	[61]
4. When you are on vacation and want to relax.....	1	2	3	4	5	[62]
5. When you are concerned about someone.....	1	2	3	4	5	[63]
6. When you are very worried.....	1	2	3	4	5	[64]
7. When you have the urge to try drugs just once to see what happens.....	1	2	3	4	5	[65]
8. When you are being offered drugs in a social situation.....	1	2	3	4	5	[66]
9. When you dream about using drugs....	1	2	3	4	5	[67]
10. When you want to test your willpower over using drugs.....	1	2	3	4	5	[68]

Continue to Next Page

SELF-EFFICACY FORM (Continued)

How confident are you that you would not use that drug of choice --	NOT AT ALL CONFIDENT	NOT VERY CONFIDENT	MODER- ATELY CONFIDENT	VERY CONFIDENT	EXTREMELY CONFIDENT	
11. When you are feeling a physical need or craving for drugs	1	2	3	4	5	[69]
12. When you are physically tired	1	2	3	4	5	[70]
13. When you are experiencing some physical pain or injury	1	2	3	4	5	[71]
14. When you feel like blowing up because of frustration.....	1	2	3	4	5	[72]
15. When you see others using drugs at a bar or at a party	1	2	3	4	5	[73]
16. When you sense everything is going wrong for you	1	2	3	4	5	[74]
17. When people you used to use drugs with encourage you to use drugs	1	2	3	4	5	[75]
18. When you are feeling angry inside	1	2	3	4	5	[76]
19. When you experience an urge or impulse to use drugs that catches you unprepared	1	2	3	4	5	[77]
20. When you are excited or celebrating with others	1	2	3	4	5	[78]

End of Form

APPENDIX C
MULTIDIMENSIONAL SCALE OF PERCEIVED SOCIAL SUPPORT

Please indicate, using the scale below, your opinion on each of the 12 statements that follow. There are no “right” or “wrong” answers. We are simply looking for your opinion (i.e., whether you personally agree or disagree with each statement).

1=strongly disagree, 2=disagree, 3=mildly disagree, 4=neither agree nor disagree
5=mildly agree, 6=agree, 7=strongly agree

1. _____ There is a special person who is around when I am in need.
2. _____ There is a special person with whom I can share my joys and sorrows.
3. _____ My family really tries to help me.
4. _____ I get the emotional help and support I need from my family.
5. _____ I have a special person who is a real source of comfort to me.
6. _____ My friends really try to help me.
7. _____ I can count on my friends when things go wrong.
8. _____ I can talk about my problems with my family.
9. _____ I have friends with whom I can share my joys and sorrows.
10. _____ There is a special person in my life who care about my feelings.
11. _____ My family is willing to help me make decisions.
12. _____ I can talk about my problems with friends.

APPENDIX D
DEMOGRAPHICS QUESTIONNAIRE

1. What is your age?
2. What is your ethnicity? (circle one) White Hispanic African-American
Other_____
3. What phase of the program are you in?
4. How long have you been in the program?
5. Male or Female (circle one)
6. How many years have you been using drugs or alcohol?

LIST OF REFERENCES

- Abellanas, L. & McLellan, T. (1993). "Stage of change" by drug problem in concurrent opioid, cocaine, and cigarette users. *Journal of Psychoactive Drugs*, 25, 307-313.
- Annis, H. M., & Davis, C. S. (1989). Relapse prevention: A cognitive-behavioral approach based on self-efficacy theory. *Journal of Chemical Dependency*, 2, 81-103.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, New Jersey: Prentice Hall, Inc.
- Bandura, A. (1992). Self-efficacy mechanism in psychobiologic functioning. In R. Schwarzer (Ed.), *Self-efficacy: Thought control of action* (pp.355-394). Washington, DC: Hemisphere.
- Bandura, A. (1995). Exercise of personal and collective efficacy in changing societies. In A. Bandura (Ed.), *Self-efficacy in changing societies*. (pp.1-45). New York: Cambridge University Press.
- Bandura, A. & Adams, N. E. (1977). Analysis of self-efficacy theory of behavioral change. *Cognitive Therapy and Research*, 1, 287-310.
- Booth, B. M., Russell, D. W., Soucek, S., & Laughlin, P. R. (1992). Social support and outcome of alcoholism treatment: An exploratory analysis. *American Journal of Drug and Alcohol Abuse*, 18, 87-101.
- Burling, T. A., Reilly, P. M., Moltzen, J. O., & Ziff, D. C. (1989). Self-efficacy and relapse among inpatient drug and alcohol abusers: A predictor of outcome. *Journal of Studies on Alcohol*, 50, 354-360.
- Caplan, G., & Killilea, M. (1976). *Support systems and mutual help*. New York: Grune and Stratton.
- Cardoso, E. D, Chan, F. Berrven, N. L., & Thomas K. R. (2003). Measuring readiness for change in individuals in residential treatment community programs for treatment of substance abuse. *Rehabilitation Counseling Bulletin*, 47, 34-44.
- Condelli, W. S. & Hubbard, R. L. (1994). Relationship between time spent in treatment and client outcomes from therapeutic communities. *Journal of Substance Abuse Treatment*, 11, 25-33.

- DiClemente, C. C. (1981). Self-efficacy and smoking cessation maintenance. *Cognitive Therapy Research*, 5, 175-187.
- DiClemente, C. C. (1986). Self-efficacy and the addictive behaviors. *Journal of Social and Clinical Psychology*, 4, 302-315.
- DiClemente, C. C., Carbonari, J. P., Montgomery, R. P., & Hughes, S. O. (1993). The Alcohol Abstinence Self-Efficacy scale. *Journal of Studies on Alcohol*, 55, 141-148
- DiClemente, C. C. & Prochaska, J. O. (1985). Processes and stages of change: Coping and competence in smoking behavior change. In S. Shiffman & T. A. Wills (Eds.), *Coping and substance abuse*. (pp.319-342). New York: Academic Press.
- DiClemente, C. C. & Prochaska, J. O. (1998). Toward a comprehensive, transtheoretical model of change: Stages of change and addictive behaviors. In W. R. Miller & N. Heather (Eds.), *Treating addictive behaviors* (2nd ed., pp. 3-24). New York: Plenum Press.
- Frances, R. J. & Miller, S. I. (Eds.). (1991). *Clinical textbook of addictive disorders*. New York: Guilford Press.
- Gerstein, D.R., Johnson, R. A., Harwood, H., Fountain, D. Sutter, N. Malloy, K. (1994). *Evaluating recovery series. The California Drug and Alcohol Treatment Assessment (CALDATA)*. Sacramento, CA: State of California, Dependency Drug and Alcohol Program.
- Gordon, A. J., & Zrull, M. (1991). Social networks and recovery: One year after inpatient treatment. *Journal of Substance Abuse Treatment*, 8, 143-152.
- Grimley, D., Prochaska, J. O., Velicer, W. F., Blais, L. M., & DiClemente, C. C. (1994). The Transtheoretical Model of Change. In T. M. Brinthaup and R. P. Lipka (Eds.), *Changing the self: Philosophies, Techniques, and Experiences*. (pp.201-227) Albany, New York: State University of New York.
- Harwood, H., Fountain, D., Livermore, G. (1997). *The economic costs of alcohol and drug abuse in the US, 1992. NIDA/NIAAA Sponsored Report*. Rockville, MD: Lewin Group.
- Harwood, H. J., Hubbard, R. L., Collins, J., Rachal, J. V. (1995). A cost-benefit analysis of drug abuse treatment. *Research in Law and Public Policies*, 3, 191-214.
- Havassy, B. E., Hall, S. M., & Wasserman, D. A. (1991). Social support and relapse: Commonalities among alcoholics, opiate users and cigarette smokers. *Addictive Behaviors*, 16, 235-246.
- Hennessey, J. J. (2001). Introduction: drug courts in operation. In J. J. Hennessey & N. J. Pallone (Eds.), *Drug Courts in operation: Current research*. (pp.1-10). New York: Haworth Press.

- Hiller, M. L., Broome, K. M., Knight, K., & Simpson, D. D. (2000). Measuring self-efficacy among drug-involved probationers. *Psychological Reports, 86*, 529-538.
- Hirschi, T. & Gottfredson, M (1983). Age and the explanation of crime. *American Journal of Sociology, 89*, 552-584.
- Hubbard, R. L., Craddock, S. G., Flynn, P. M., Anderson, J., & Etheridge, R. M. (1997). Overview of 1-year follow-up outcomes in the Drug Abuse Treatment Outcome Study (DATOS). *Psychology of Addictive Behaviors, 11*, 261-278.
- Janis, I. L., & Mann, L. (1977). *Decision-making: A psychological analysis of conflict, choice, and commitment*. New York: Free Press.
- Lang, M. A., & Belenko, S. (2000). Predicting retention in a residential drug treatment Alternative to prison program. *Journal of Substance Abuse Treatment, 19*, 145-160.
- Marlatt, G. A. (1985). Relapse Prevention: Theoretical rationale and overview of the model. In G. A. Marlatt & J. R. Gordon (Eds.), *Relapse Prevention* (pp.3-70). New York: Guilford Press.
- Marlatt, G. A., & Gordon, J. R. (Eds.). (1985). *Relapse Prevention*. New York: Guilford Press.
- Mammo, A. & Weinbaum, D. F. (1993). Some factors that influence dropping out from outpatient alcoholism treatment facilities. *Journal of Studies on Alcohol, 54*, 92-101.
- McCrary, B. S. (2004). To have but one true friend: Implications for practice of research on alcohol use disorders and social networks. *Psychology of Addictive Behaviors, 18*(2), 113-121.
- McCrary, B. S., Epstein, E. E., & Sell, R. D. (2003). Theoretical bases of family approaches to substance abuse treatment. In F. Rotgers, D. S. Keller, & J. Morgenstern (Eds.), *Treatment of substance abusers: Theory and technique* (2nd ed., pp. 112-139). New York: Guilford Press.
- McCrary, B. S., Hayaki, J., Epstein, E. E., & Hirsch, L. S. (2002). Testing hypothesized predictors of change in conjoint behavioral alcoholism treatment for men. *Alcoholism: Clinical and Experimental Research, 26*, 463-470.
- McFarlain, R. A., Cohen, G. H., Yoder, J., & Guirly, L. (1977). Psychological test and demographic variables associated with retention of narcotic addicts in treatment. *International Journal of Addictions, 12*, 399-410
- McKay, J. R., Maisto, S. A., & O'Farrell, T. J. (1993). End of treatment self-efficacy, aftercare, and drinking outcomes of alcoholic men. *Alcoholism: Clinical and Experimental Research, 17*, 1078-1083.

- Miller, W. R., & Rollnick, S. (1991). *Motivational interviewing: Preparing people to change addictive behavior*. New York: Guilford Press.
- Miller, W. R., & Rollnick, S. (2002). *Motivational interviewing: Preparing people to change addictive behavior* (2nd ed.). New York: Guilford Press.
- Mohr, C. D., Averno, S., Kenny, D. A., & Delboca, F. (2001). "Getting by (or getting high) with a little help from my friends": An examination of adult alcoholics' friendships. *Journal of Studies on Alcohol*, 62, 637-645.
- Moos, R. H., Bromet, E., Tsu, V., & Moos, B. (1979). Family characteristics and the outcome of treatment for alcoholism. *Journal of Studies on Alcohol*, 40, 78-88.
- O'Farrell, T. J., Hooley, J., Fals-Stewart, W. & Cutter, H. Q. (1998). Expressed emotion and relapse in alcoholic patients. *Journal of Consulting and Clinical Psychology*, 66, 744-752.
- Prochaska, J. O., & DiClemente, C. C. (1982). Transtheoretical therapy: Toward a more integrative model of change. *Psychotherapy: Theory, Research, and Practice*, 19, 276-288.
- Prochaska, J. O., & DiClemente, C. C. (1986). Toward a comprehensive model of change. In W.R. Miller & N. Heather (Eds.), *Treating addictive behaviors: Processes of change* (pp.3-27). New York: Plenum Press.
- Prochaska, J. O., & DiClemente C. C. (1992). Stages of change in the modification of problem behaviors. *Progress in Behavior Modification*, 28, 183-218.
- Prochaska, J. O., DiClemente C. C., & Norcross, J. C. (1992). In search of how people change: Applications to addictive behaviors. *American Psychologist*, 47, 1102-1114.
- Remple, M. & DeStefano, C. D. (2001). Predictors of engagement in court-mandated treatment: Findings at the Brooklyn treatment court, 1996-2000. In J. J. Hennessy & N. J. Pallone (Eds.), *Drug Courts in operation: Current research* (pp.87-123). New York: Haworth Press.
- Rosenberg, H. (1983). Relapsed versus non-relapsed alcohol abusers: Coping skills, life events, and social support. *Addictive Behaviors*, 8, 183-186.
- Rychtarik, R. G., Prue, D. M., Rapp, S. R., & King, A. C. (1992). Self-efficacy, aftercare, and relapse in a treatment program for alcoholics. *Journal of Studies on Alcohol*, 53, 435-440.
- Sansone, J. (1980). Retention patterns in a therapeutic community for the treatment of drug abuse. *International Journal of Addictions*, 15, 711-736.

- Saxon, A., Wells, E., Fleming, C., Jackson, T., & Calsyn, D. (1996). Pre-treatment characteristics, program philosophy and level of ancillary services as predictors of methadone maintenance treatment outcome. *Addictions, 91*, 1197-1209.
- Sindelar, J. L. & Fiellin, D. A. (2001). Innovations in treatment for drug abuse: Solutions to a public health problem. *Annual Review of Public Health, 22*, 249-272.
- Slaught, E. (1999). Focusing on the family in the treatment of substance abusing criminal offenders. *Journal of Drug Education, 29*, 53-62.
- Snow, M.G., Prochaska, J.O., & Rossi, J.S. (1992) Stages of change for smoking cessation among former problem drinkers: A cross-sectional analysis. *Journal of Substance Abuse Treatment, 4*, 107-116.
- Sobell, L. C., Sobell, M. B., Toneatto, T. & Leo, G. I. (1993). Recovery from alcohol problems without treatment. In N. Heather, W. R. Miller, & J. Greeley (Eds.). *Self-control and the addictive behaviors* (pp.198-242). New York: Maxwell/Mac Millan.
- Steer, R. A. (1980). Psychosocial correlates of retention in methadone maintenance. *International Journal of Addictions, 15*, 1003-1009.
- Substance Abuse and Mental Health Services Administration (SAMHSA). (2004). *Results from the 2003 National Survey on Drug Use and Health: National Findings* (Office of Applied Studies, NSDUH Series H-25, DHHS Publication No. SMA 04-394). Rockville, MD.
- Sung, H., Belenko, S., Fend, M. A., & Tabachnick, M. A. (2004). Predicting treatment noncompliance among criminal justice-mandated clients: A theoretical and empirical exploration. *Journal of Substance Abuse Treatment, 26*, 13-26.
- Tucker, M. B. (1979). A descriptive and comparative analysis of the social support structure of heroin-addicted women. In *Addicted women: Family dynamics, self-perception and support systems*. Rockville, MD: Department of Health and Human Services.
- Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The Multidimensional Scale of Perceived Social Support. *Journal of Personality Assessment, 52*, 30-41.
- Zimet, G. D., Powell, S. S., Farley, G. K., Werkman, S. Berkoff, K. A. (1990). Psychometric characteristics of the Multidimensional Scale of Perceived Social Support. *Journal of Personality Assessment, 55*, 610-617.
- Zywiak, W. H., Lognabaugh, R., & Wirtz, P. W. (2002). Decomposing the relationship between pretreatment social network characteristics and alcohol treatment outcome. *Journal of Studies on Alcohol, 63*, 114-121.

BIOGRAPHICAL SKETCH

Rebeca Lau Kovar is a student in the rehabilitation counseling master's program at the University of Florida. She has a Bachelor of Science degree in psychology, also from the University of Florida. Currently she is employed as an Addictions Counselor at Corner Drug Store-Outpatient Services working with the federal and county probation population.