

ABSTRACT

The Impact of a Vocational Counseling Based Substance Abuse Intensive Outpatient Program
upon Work and Well-Being: A Pilot Study

by

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Even though recovery from Substance Use Disorders (SUDs) involves changes among a number of life domains, services have traditionally focused on abstinence from substances. cursory attention is placed on holistic treatment approaches for persons with SUDs, such as vocational counseling services to address employment related concerns. In response to this need, the purpose of this study was to explore the influence of an innovative treatment approach for individuals with SUDs. Specifically, an exploration of the impact of an innovative intervention that prepares consumers in SUD treatment for gainful employment for the purpose of improving work and well-being outcomes was conducted.

Participants were consumers who received services from a Substance Abuse Intensive Outpatient Program at East Carolina University and consented to participate (N = 69). Based on Life-Course theory and previous literature on the interplay of employment and the treatment of SUDs, the following research questions and hypotheses were generated. Research question 1 explored the impact of consumer demographic factors on SAIOP participation. Research question 2 explored the impact of SAIOP participation on work and well-being outcomes, and was tested through the following five hypotheses: (1) The longer the SAIOP participation, the

more likely the participants were to be employed full- or part-time; (2 – 5) As participants' SAIOP participation increased, the severity of their employment issue, alcohol use, drug use, and psychiatric issue problem severity would decrease. For research question 1, results revealed one significant association, where consumers with no high school education had more participation hours in job readiness training than those with a high school degree or GED. For research question 2, the results revealed support for hypothesis 1, that longer hours of participation was associated with an increased likelihood of employment, and hypothesis 4, that longer hours of participation was associated with a decrease in drug use problem severity. The results did not show support for hypotheses 2, 3, or 5.

The results demonstrate the interplay between work and treatment for SUDs. Further, this study shows support re-conceptualizing SUDs treatment delivery to include a more life-course, holistic approach. Thus, this study has implications for rehabilitation counselors and administrators.

THE IMPACT OF A VOCATIONAL COUNSELING BASED SUBSTANCE ABUSE
INTENSIVE OUTPATIENT PROGRAM UPON WORK AND WELL-BEING:
A PILOT STUDY

A Dissertation

Presented To

The Faculty of the Department of Rehabilitation Studies
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Ph.D. Rehabilitation Counseling and Administration

by

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TABLE OF CONTENTS

LIST OF TABLES.....	xiii
CHAPTER 1: INTRODUCTION.....	1
Introduction to the Study.....	1
Background of the Study.....	1
Impact of Substance Use Disorders on Society.....	2
Substance Use Disorders in North Carolina.....	3
Substance Use Disorders Treatment Overview.....	4
Statement of the Problem.....	5
Employment Status.....	6
Purpose of the Study.....	8
Theoretical Rational.....	8
Research Questions and Hypotheses.....	9
Study Justification.....	10
Significance of the Study.....	12
Chapter Summary.....	13
CHAPTER 2: REVIEW OF LITERATURE.....	14
Introduction to Literature Review.....	14
Life Course Theory.....	14
Re-Conceptualizing SUD Treatment.....	15
Substance Use Disorders as a Chronic Disability.....	16
Work and Well-Being.....	18
A Rationale for Vocational Services during SUD Treatment.....	20

Key Factors for the Integration of Vocational Counseling in SUD Treatment.....	23
Barriers to Employment.....	23
Consumer-level barriers.....	24
Program-level barriers.....	25
Societal-level barriers.....	26
Motivation.....	27
Participation.....	29
An Integrated Model of SUD Treatment.....	31
Summary.....	32
CHAPTER 3: METHODS.....	34
Introduction.....	34
Research Questions and Hypotheses.....	34
Archival Data and Definition of Variables.....	35
Definition of Variables.....	36
Research Design.....	37
Population.....	37
Sample and Sampling.....	38
Procedures.....	39
Data Collection.....	39
Intervention.....	40
Instrumentation.....	42
The Addiction Severity Index.....	42
Background.....	42

Composite scores.....	43
Relevant research.....	44
Summary.....	46
PWR Evaluation Survey.....	46
Statistical Analyses.....	47
Ethical Considerations.....	47
Summary.....	48
CHAPTER 4: RESULTS.....	49
Introduction to the Chapter.....	49
Attrition Rate.....	49
Sample Demographics.....	49
Descriptive Statistics.....	50
Employment Status at 120-day Follow-Up.....	51
Participation.....	51
Problem Severity.....	51
Data Analysis Results for Hypothesis Testing.....	52
Research Question 1 Data Analyses.....	52
Gender.....	56
Ethnicity.....	56
Highest level of education.....	56
Age.....	57
Research Question 2 Data Analyses.....	57
Hypothesis 1 data analyses.....	58

Hypothesis 2 data analyses.....	61
Hypothesis 3 data analyses.....	62
Hypothesis 4 data analyses.....	62
Hypothesis 5 data analyses.....	62
Summary.....	63
CHAPTER 5: DISCUSSION.....	65
Introduction to the Chapter.....	65
Summary of the Study.....	65
Interpretation of Results.....	67
Attrition Rate.....	67
Sample Demographics.....	68
Descriptive Statistics.....	70
Employment status at 120-day follow-up.....	70
Participation.....	71
Problem severity.....	71
Results of Research Questions and Hypotheses Testing.....	72
Summary of Research Questions and Hypotheses Results.....	80
Study Limitations.....	80
Research Design.....	81
Sampling.....	81
Instrumentation.....	83
Implications of the Study.....	84
Implications for Rehabilitation Administrators.....	85

Implications for Rehabilitation Counselors.....	86
Recommendations for Future Research.....	86
Conclusion.....	88
REFERENCES.....	91
APPENDIX A: GENERAL CONSENT AND HIPAA DOCUMENT.....	106
APPENDIX B: PROJECT WORKING RECOVERY (PWR) CONTACT INFORMATION FORM.....	109
APPENDIX C: PROJECT WORKING RECOVERY (PWR) EVALUATION SURVEY.....	111
APPENDIX D: PROJECT WORKING RECOVERY (PWR) MENU OF SERVICES.....	115
APPENDIX E: INSTITUTIONAL REVIEW BOARD APPROVAL LETTER.....	123

LIST OF TABLES

1. Service Participation Distribution.....	53
2. Problem Severity Descriptive Statistics.....	54
3. Demographic Factors Impact on SAIOP Participation.....	55
4. Logistic Regression Analysis for Impact of Participation on Employment Status.....	59
5. General Linear Models for Problem Severity Composite Scores.....	60
6. Comparison of Participant Demographics Among Vocational Intervention SUD Studies.....	69

CHAPTER 1: INTRODUCTION

Introduction to the Study

This chapter provides an introduction to this research study examining the relationship between participation in a vocational counseling based Substance Abuse Intensive Outpatient Program (SAIOP) and work and well-being outcomes. The chapter includes the background of the study, statement of the problem, justification for the study, research questions and hypotheses, significance of the study, definition of terms, and a brief summary of the chapter.

Background of the Study

Substance use disorders (SUDs) have placed a serious burden on our nation's major social institutions including family, education, medical, legal, and economic systems (De Alba, Samet, & Saitz, 2004; North Carolina Institute of Medicine Task Force on Substance Abuse Services [NCIOM], 2008; Office of National Drug Control Policy, 2004; Substance Abuse and Mental Health Services Administration [SAMHSA], 2006, 2008b, 2009a; U.S. Department of Health and Human Services [USDHSS], 2000, 2008, 2009). The economic costs of this public health problem are staggering, with an estimated \$346 billion in both direct and indirect costs having been spent over the past decade (Office of National Drug Control Policy, 2004; USDHSS, 2008). More than 22 million Americans have been diagnosed with SUDs; with alcohol use disorders being the most prevalent problem (SAMHSA, 2009b). Among illicit drugs, marijuana is the most commonly used, although epidemiological evidence shows an increase in cocaine/crack cocaine alone and in combination with other drugs (USDHSS, 2007). North Carolina (NC), the site of this study, shows SUD rates at or below the national average. While alcohol use disorders are below the national average, drug use disorder rates in NC are higher than the national average (NCIOM, 2008; SAMHSA, 2008a; 2010). With such an incidence,

SUDs, as an individual, systemic, and social problem, have a dramatic impact on society at large.

Impact of Substance Use Disorders on Society

Substance Use Disorders have a significant adverse impact on individual and public health (De Alba et al., 2004). As defined by criteria established in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV), SUDs, including alcohol or prescription and illicit drugs, include symptoms such as “withdrawal, tolerance, use in dangerous situations, trouble with the law, and interference in major obligations at work, school, or home during the past year” (SAMHSA, 2006, p. 1). Substance Use Disorders have direct costs to society including prevention, treatment, and recovery services, and indirect costs associated with accidents, premature death, comorbid health conditions, disability, lost productivity, unemployment, poverty, homelessness and many other social problems (North Carolina Institute of Medicine Task Force on Substance Abuse Services, 2008). In fact, *Healthy People 2010* identified SUDs as being associated with the nation’s most serious problems such as violence, injury, and HIV infection (USDHSS, 2000).

According to the 2004 National Center for Health Statistics, the overall economic cost of SUDs exceeded \$346 billion within the past decade (USDHSS, 2008). In 2002, the estimated annual cost associated with illicit drug use disorders was \$180.9 billion including health care (\$15.8 billion, or 8.7%), productivity losses (\$128.6 billion, or 71.2%), and other effects, which were primarily attributed to criminal justice resources (\$36.4 billion, or 20.1%). The most rapid cost growth was related to criminal justice, namely, rates of incarceration for drug- and drug-related offenses and spending on law enforcement and adjudication (Office of National Drug Control Policy, 2004). The substantial and growing direct costs (e.g., health care, goods and services lost to crime, and social welfare) and indirect costs (e.g., premature death, drug-related

illnesses, institutionalization/hospitalization, productivity loss of crime victims, and crime careers and incarceration) of SUDs, as categorized by the Office of National Drug Control Policy (2010), underscore the importance of effective SUD treatment and recovery programs.

According to SAMHSA (2009b), community-based SUDs treatment is essential to reduce the social and economic burden on society.

Substance Use Disorders in North Carolina

In NC, 6.6% of the state's population 12 years and older (550,000 people) reported alcohol use disorders and about 3.0% (250,000 people) reported drug use disorders. Prescription drug use was also a significant problem with more than 400,000 residents 12 years and older reportedly using pain relievers non-medically (NCIOM, 2008). Overall rates of SUDs in NC are at or below national rates. This finding appears to be related to the lower rates of alcohol use disorders in NC as compared to the national average. Drug use disorder rates in NC are at or above the national rates (SAMHSA, 2008d).

The impact of SUDs on NC's economy is significant, accounting for over \$12.4 billion in direct and indirect costs (NCIOM, 2008). However, NC ranks among the states in the "lowest group" for alcohol use disorders and the "mid-group" for drug use disorders among residents 12 years and older, based on reported use in the last month (SAMHSA, 2010). Moreover, NC is consistent with the rest of the country in terms of the extent to which those who need treatment actually receive the needed services. In 2009, fewer than 5% of NC residents with alcohol use disorders and fewer than 10% of those with drug use disorders received treatment from providers funded through the NC Division of Mental Health, Developmental Disabilities, and Substance Abuse Services, the lead agency responsible for the coordination of prevention, treatment, and recovery support services. A number of factors contribute to this gap, including lack of

recognition of a SUD problem, lack of motivation to seek treatment, inability to get services when needed or to the extent needed, and need for ongoing recovery support to prevent recidivism (NCIOM, 2008).

For consumers who receive treatment, the 2006 National Survey of Substance Abuse Treatment Services reported there are 362 treatment facilities in NC, with the majority offering a form of outpatient treatment although other modalities may also be offered (SAMHSA, 2008d). Based on a one-day total, 25,845 consumers were in treatment primarily on an outpatient basis. North Carolina has seen an increase in drug use disorder-only treatment admissions concomitant with a decrease in mentions of alcohol use disorder-only at the time of admission. Therefore, there is a need for SUD treatment services in NC, specifically services that meet the changing needs of consumers seeking treatment.

Substance Use Disorders Treatment Overview

Nationwide, the number of treatment facilities increased slightly from 2004 to 2008, from 13,454 to 13,688 facilities, for a 2% increase (SAMHSA, 2009b). However, the primary services of these facilities (SUD treatment services, mental health services, a mix of mental health and SUD treatment services, general health care, or other activity) and the major types of care (outpatient, residential/non-hospital, and hospital inpatient) changed little during this period. For most facilities surveyed, the provision of SUD services was the primary focus (61%), with 67% of all consumers in treatment, and a mix of mental health and SUD services was the focus of 30% of facilities, with 27% of all consumers in treatment (National Survey of Substance Abuse Treatment Services [N-SSATS], 2008). Mental health services (7%), general health care (1%), and other activities (1%) accounted for the primary focus of the remaining facilities, together accounting for 7% of all consumers in treatment.

Outpatient care was clearly the dominant modality, provided by 80% of all facilities and accounting for 90% of all consumers. Residential (non-hospital treatment) was provided by 27% of facilities, accounting for 9% of all consumers. Finally, hospital or inpatient treatment was provided by 6% of facilities, accounting for only 1% of consumers in treatment. Nine out of 10 facilities treated consumers with both alcohol and drug abuse use disorders, and most treated consumers with co-occurring mental health and SUDs.

The 2008 National Survey of Substance Abuse Treatment Services reported a notable increase (11%) in consumers being treated, from 1.7 million in 2004 to 1.9 million in 2008 (SAMHSA, 2009b). Consumers being treated for SUDs accounted for nearly half (45%-46%) of all consumers, consumers being treated for drug use disorders-only, about one-third (34-36%), and consumers for alcohol use disorders- only, about one-fifth (18%-20%). According to the SAMHSA (2006) data reported to state administrative systems in 2008, most consumers admitted were Caucasian (59.4%) and the rest were African American (21.3%), Hispanic/Latino (14.0%), or Alaska Native, Native American Indian or Asian (5.3%). In terms of age, 51% were under age 35 and 89% under age 50 (National Institute on Drug Abuse [NIDA], 2008).

Statement of the Problem

Increasingly, SUDs are recognized as a chronic disability (Dennis, Foss, & Scott, 2007; Kaplan, 2008; Moos & Moos, 2007; World Health Organization [WHO], 2008), and a multi-factorial health disorder (WHO, 2008), suggesting the need for a life course approach to treatment (Dennis et al., 2007; Donnell, Mizelle, & Zheng, 2009; Hser, Longshore, & Anglin, 2007; Kaplan, 2008; Laudet & White, 2010). Moreover, co-occurring or co-morbid conditions may complicate the treatment and recovery process (Banerjea, Sambamoorthi, Smelson, & Pogach, 2007; Chassin, 2008; De Alba et al., 2004; Hogue, Dauber, Dasaro, & Morgenstern,

2010; Institute of Medicine, 2005; Janikowski, Donnelly, & Lawrence, 2007; Slayter, 2010; SAMHSA, 2007, 2010). Even though recovery from SUDs involves changes among a number of life domains, services have traditionally and primarily focused on the reduction or abstinence from alcohol and/or drug use. cursory attention has been placed on life course treatment approaches for SUDs, such as vocational counseling services to address employment related concerns (Magura, Staines, Blankertz, & Madison, 2004). In order for the recovery from SUDs to be sustained, treatment options need to shift to a more life course approach incorporating services beyond those solely for alcohol and/or drug use reduction or abstinence (Staines et al., 2004). For example, the application of vocational counseling as an ancillary treatment intervention for persons with SUDs is supported by the significant role of employment in the disability and recovery process (Highhouse, Zickar, & Yankelevich, 2010; Khattab & Fenton, 2009; Layard, 2010; Leufstadius, Eklund, & Erlandsson, 2009; Moos & Moos, 2007; SAMHSA, 2009c; Tsaousides, Ashman, & Seter, 2008; van Campen & Cardol, 2009; Young, 2000).

Employment status is both a predictor of treatment need and a measure of treatment outcomes (SAMHSA, 2008c; 2009a). Due to the fact that SUDs are more prevalent among unemployed than employed adults and because employment contributes to improved treatment outcomes, treatment facilities need to address the vocational needs of their adult consumers (Adamson & Sellman, 2009; Hogue et al., 2010; Lidz, Sorrentino, Robison, & Bunce, 2004; SAMHSA, 2009e; Sligar & Toriello, 2007; Walls, Moore, Batiste, & Loy, 2009; West, 2008; Young, 2000).

Employment Status

On average, for persons with SUDs, the rate of employment of between 25% and 60% is substantially lower than the national average of 90.4% (West, 2008). The relationship between

employment status and SUDs can influence treatment admissions. For example, the use patterns and consumer characteristics in treatment vary based on employment status at admission according to SAMHSA's Treatment Episode Data Set (TEDS; 2008a). Data from TEDS on 1.8 million consumers (18-64 years) admitted to SUD treatment facilities showed that consumers who were employed full-time more often reported alcohol as the primary substance of abuse (58%), as compared to consumers who were persons with a disability (46%), unemployed (39%), labor force dropouts (defined as unemployed, not seeking employment; 39%), and homemakers (35%). Moreover, consumers who were employed full-time were half as likely as labor force dropouts to report daily use of their primary substance in the past month (56% vs. 26%), and consumers who were employed full-time or were homemakers more often reported entering treatment for the first time, 59% and 57% respectively, than those who were labor force dropouts (47%), persons with a disability (41%), or unemployed (40%). Additionally, consumers who were employed full-time or were homemakers were more likely than other groups to be in ambulatory rather than residential/rehabilitation treatment settings (71%) as compared with 31% of labor force dropouts. Finally, among SUD treatment admissions for those 18-64 years old, the age cohort that is expected to be employed, 31% were unemployed and 36% were labor force dropouts.

Employment status has also influenced treatment outcomes among consumers discharged from outpatient programs. Data from TEDS show that employed consumers (16 years and older) were considerably more likely to complete treatment (46%) than unemployed consumers (28%) or those not in the labor force. When reason for discharge was considered, the treatment dropout rate was lowest among those who were employed (25%) as compared with those unemployed (32%) or not in the labor force (30%), though differences were negligible when consumers were

involuntarily discharged (SAMHSA, 2009e). These findings are especially important because completion of treatment is a consistent predictor of improved outcomes such as long-term abstinence. Dropping out of treatment is correlated to the relapse of SUDs (SAMHSA, 2009e).

The relationship between SUDs and employment is clear. However, current SUD treatment trends are not capitalizing on this relationship (Al-Kandari, Yacoub, & Omu, 2007). Thus, research is needed to further understand the impact of employment on SUDs. Such research would represent a means to integrate a more life-course, holistic approach of SUD services.

Purpose of the Study

In response to this research need, the purpose of this study was to explore the influence of an innovative treatment approach for consumers with SUDs. Specifically, an exploration of the impact of an innovative intervention that prepares consumers in SUD treatment for gainful employment for the purpose of improving work and well-being outcomes was conducted. Work and well-being outcomes include seeking and gaining employment, and reducing problem severity among various life domains (e.g., employment issues, alcohol and drug use, psychiatric). This study examined the relationships between participation in a vocational counseling based Substance Abuse Intensive Outpatient Program (SAIOP) and work and well-being outcomes.

Theoretical Rational

The life course theory has recently been used to provide a theoretical framework for understanding consumers' SUD and recovery patterns. In general, the life course theory emphasizes the impact of social, cultural, and historical contexts on consumers' lives over time (Hammack, 2005). Specific to the research on SUDs, the life course theory posits that consumers experience various trajectories, transitions, and turning points throughout the use and recovery

processes (Hser et al., 2007). These tenets of the life course theory are applicable to examining the course and treatment of SUDs. For example, Elder (1985) states “how life’s transitions and turning points are managed can lead a [consumer] towards different life trajectories” (p. 29). Life course theory underpins the current study in that entry or re-entry into the workforce is an important transition point, especially for consumers with SUDs. Thus, the life course theory helped guide this study through the examination of employment as an important transition that may guide consumers to alternative life trajectories. Specifically, this study examined the effect of the integration of vocational counseling into traditional SUD treatment.

Research Questions and Hypotheses

The effects of SUDs include health problems, social and family problems, and financial problems. In addressing SUDs as a life course issue, researchers emphasize the need to adopt a life course and holistic approach, including the examination of various turning points and transitions for enhancing consumers’ recovery capital (Al-Kandari et al., 2007). This study examined the impact of participation in a vocational counseling based SAIOP, as a potential turning point, on consumers’ work and well-being outcomes and enhancement of recovery capital. Specifically, this study examined the following research questions and hypotheses.

Research question 1: What demographic factors influence SAIOP length of participation from baseline to 120-day follow-up period?

Research question 2: How does the length of SAIOP participation impact consumers’ work and well-being outcomes? Specifically, this research question focused on the impact participation in a vocational counseling based SAIOP had on consumers’ employment status and problem severity (i.e. employment, alcohol use, drug use, and psychiatric problems) as

evidenced by change in Addiction Severity Index (ASI) composite scores. To examine this research question, the following hypotheses were tested.

Hypothesis 1: The longer the SAIOP participation, the more likely the participants are to be employed full or part time.

Hypothesis 2: As participants' SAIOP participation increases, the severity of their employment issues will decrease.

Hypothesis 3: As participants' SAIOP participation increases, the severity of their alcohol use issues will decrease.

Hypothesis 4: As participants' SAIOP participation increases, the severity of their drug use issues will decrease.

Hypothesis 5: As participants' SAIOP participation increases, the severity of their psychiatric issues will decrease.

Study Justification

Historically, most sociocultural definitions of work ethic have emphasized productive activity as central to personal and social meaning in the lives of human beings (Highhouse et al., 2010; Khattab & Fenton, 2009; Young, 2000). In most Western societies, work plays a major social role in the lives of a majority of adults (Leufstadius et al., 2009). Specifically, work is identified as an essential life activity that provides income, social relationships, social status, temporal structure, and meaning for individuals and their families. As stated by van Campen and Cardol (2009), "participation in employment is the main road to well-being" (p. 56). A plethora of general population surveys have identified employment and income as important factors in happiness and life satisfaction, along with physical health, family status, and age (Layard, 2010). Underscoring the importance of work, respondents in surveys conducted by the National Opinion

Research Center (NORC) from 1980 to 2006 were asked the lottery question, “If you were to get enough money to live as comfortably as you would like for the rest of your life, would you continue to work or would you stop working?” Most respondents said “yes, I would continue working” (Highhouse et al., 2010, p. 349).

Work is associated with perceived better health and well-being among individuals with mental illness (Leufstadius et al., 2009). Daily routines do contribute to health and recovery, although whether this is the case because healthier people work or because work fosters health and well-being is unclear. Four interrelated themes, which have implications for consumers with SUDs, underlie the beneficial nature of work: work in and of itself is important because it makes a person feel useful and worthy, work allows a person to feel that he or she is making a contribution to society and is valued as part of a group, work provides a balance in life because it requires structure and daily routines and in turn, makes a person more energized than when not working, and work contributes to a feeling of well-being and increased self-esteem (Leufstadius et al., 2009). These themes could represent a holistic model, with work as the common thread, for recovery from SUDS.

From a life course perspective, work is important to SUD treatment both as a predictor and measure of success. Evidence of this exists with the identification of increased or retained employment and stay-in or return to school as outcome indicators in SAMSHA’s (2009d) National Outcome Measures (NOMs) framework. Evidence shows that gainful employment is one of the most powerful and consistent predictors of treatment success and of maintaining sobriety after treatment for persons with SUDs (Adamson & Sellman, 2009; West, 2008). In terms of life course approach, work can be seen as a turning point for consumers; altering the SUD trajectory towards recovery and enhancing recovery capital. Innovative approaches, such as

integrating vocational counseling, have the capacity to bridge the gap between a traditionally narrow treatment approach and the implementation of a more life course approach, thereby improving the treatment outcomes of persons with SUDs.

Significance of the Study

The aim of this study was to examine the effect of integrating innovative approaches to SUD treatment as a means of improving treatment outcomes. Specifically, this study examined the effects of participation in a vocational counseling based SAIOP on consumers' work and well-being outcomes. The findings of this study help support the growing need for innovative SUD treatment approaches to bridge the gap between research and available treatment for SUDs. According to McLellan (2006) this research-to-treatment gap exists and current treatment approaches, as well as various agency based factors, inhibit the integration of a more holistic approach to SUD treatment.

Review of current trends in the treatment of SUDs demonstrates that the gap between research and treatment exists in the narrow focus of SUD treatment. Life course approaches to the treatment of SUDs, such as integrating vocational counseling (West, 2008), increases treatment and recovery outcomes; however, the majority of SUD treatment remains solely focused on addressing substance related problems (SAMHSA, 2008c). Thus, to improve consumer outcomes, the treatment of consumers with SUDs needs to expand the boundaries of problems addressed in order to meet the life course and holistic needs of consumers served. Offering a more life course focus of SUD treatment within one setting is consistent with recommendations by Miller and Carroll (2006), stating that "intervention [for SUDs] is not a specialist problem, but a broad social responsibility..." (p. 302) and that "...services [be] easily accessible, affordable, welcoming, helpful, potent, rapid, and attractive" (p. 308). Integrating

vocational counseling within a SUD treatment program represents a step toward promotion of a life course view of recovery from SUDs and potentially providing consumers with opportunities to work towards personal growth and overall well-being. In terms of attractiveness, employment is highly desired within our society. Providing services to increase one's employability as part of his or her recovery process is likely to be both a need and a desire for those seeking treatment for SUDs. Finally, Miller and Carroll (2006) recommend that the use of treatment approaches demonstrated effective through research be integrated into the treatment of SUDs. In order to bridge the research-to-treatment gap, innovative and holistic treatment approaches from a life course perspective are needed. This study examined the effectiveness of an innovative SUD treatment approach that focused on work as a means to building recovery capital.

Chapter Summary

This chapter introduced the purpose of this study, which was to examine the impact of a vocational counseling based SAIOP on consumers' work and well-being outcomes. An overview of SUD prevalence and treatment in the United States, with an emphasis on the state of NC was provided. A statement of the problem including the need to improve the treatment of SUDs with a rationale that integrating services around employment would serve as an important factor for increasing consumers' SUD outcomes and overall well-being followed. A review of the theoretical foundation and rational guiding this study was explored. The chapter concluded with justification and significance of this study. The following chapter will provide a comprehensive review of the relevant theoretical and empirical literature related to the treatment of SUDs and the important role of employment in the recovery process.

CHAPTER 2: LITERATURE REVIEW

Introduction to Literature Review

The literature review begins with a theoretical foundation supporting the recent paradigm shift and reconceptualization on how to address SUDs treatment, as well as demonstrating the need for innovative treatment approaches to widen the scope of treatment beyond the use of substances. The review continues with the examination of key elements in this rethinking of SUD treatment, specifically viewing SUDs as a chronic disability and exploring the importance of work and well-being for the recovery process. This review concludes with a rationalization for and exploration of vocational counseling based interventions focusing on the treatment of SUDs.

Life Course Theory

A life course approach, having been applied to risk behaviors, namely HIV/AIDS, crime, and mental health, has more recently been utilized in understanding the chronic nature of SUDs, with attention to three concepts: turning points, timing, and recovery capital (Dennis et al., 2007; Hser et al., 2007). A turning point refers to change in the path of SUDs, such as when abstinence is achieved. Timing refers to the amount of time in abstinence before changes in related areas of recovery are recognized. Recovery capital represents resources obtained during the period of recovery from substances, such as employment, housing, interpersonal relationships, and satisfaction with life (Dennis et al., 2007; Hser et al. 2007).

Based on the life course perspective, Dennis et al. (2007) studied the paths of adults (n = 1,162) seeking SUD treatment in a network of 22 inpatient and outpatient programs, from the point of entry through eight year follow up period, in terms of recovery related to vocational activity among other physical, psychological, social, and environmental outcomes. The findings showed a significant relationship between abstinence and vocational activity. Those who

maintained recovery longer had more days of work, greater individual income from work, fewer days of financial problems, and less likelihood of living below the poverty line.

Research applying the life course theory to SUD treatment has evolved from discussions for the need to re-conceptualize and restructure the treatment system to match with models such as “continuity of care” and “chronic care model” (McLellan, 2006). Specifically, Hser et al. (2007) demonstrated the common treatment service interaction of consumers with SUDs with a wide array of other service providers, such as mental health, allied health, and vocational specialists. The authors noted that consumers’ SUD recovery trajectories are life course oriented and often associated with involvement with such ancillary services, in that the inclusion of more holistic services are associated with recovery related life course turning points and transitions. A common theme included in suggestions for further research of SUDs from a life course perspective is the need, as a field, for the re-conceptualization of SUD treatment.

Re-Conceptualizing SUD Treatment

Substance use disorder clinicians, researchers, consumers, and family members alike have experienced a startling realization – what we are doing is not working. Traditional models of SUD treatment were developed on the belief that denial was the primary barrier to recovery, and confrontation of this denial was necessary to convince a consumer that a problem exists is critical. A myriad of research over the past two decades has demonstrated that these approaches were not successful at providing long-term sustainment of recovery from SUDs (for review see Miller & Carroll, 2006). Tremendous advances are being made in the development of psychosocial interventions for SUDs (Miller & Wilbourne, 2002). Additionally, there are notable advances in the areas of diagnosis, psychosocial treatment approaches, medications, and screening demonstrating an increased effectiveness in addressing SUDs (McLellan, Cacciola,

Alterman, Rikoon, & Carise, 2006). Such advances based on sound research, often referred to as ‘evidence-based practices’, are widely available in research; however, current SUD treatment programs tend to lack the integration of EBPs. McLellan et al. (2006) refers to this phenomenon as the ‘research-to-treatment’ gap, whereas the gap exists in the lack of integration of evidenced –based practices into mainstream treatment of SUDs. To address this research-to-treatment gap, there needs to be a shift in the view of SUDs and the treatment thereof.

The traditional view of a one-size-fits-all model to the treatment of SUDs, independent of other co-occurring illnesses and/or problems has lead the field to treating SUDs within a silo (Kumpfer, Trunnell, & Whiteside, 1990). McLellan et al. (2006) describes the need to “understand drug use and problems in a larger life context, and provide comprehensive care” (p. 124). Thus, treatment of SUDs requires looking beyond the reduction of substance use. Examining the interplay of multiple life course concepts (e.g., transitions, turning points, and recovery capital) that affect both the use of substances and the ensuing recovery from SUDs is important. For example, there exists a need to observe SUDs as a chronic disability, requiring continuation of professional and consumer driven attention to ensure enhancement in recovery capital and shifts in recovery trajectories. To assist in this improvement of overall well-being, innovative treatment approaches are needed to address the multi-faceted problems related to SUDs.

Substance Use Disorders as a Chronic Disability

Substance use disorders are increasingly being recognized as a chronic, relapsing disability and as such, possibly spanning decades or even a lifetime and requiring many episodes of treatment (Dennis et al., 2007; Kaplan, 2008; Moos & Moos, 2007; WHO, 2008). Further, as knowledge about the complex interaction between social, biological, and environmental factors

related to substance use grows, SUDs are now recognized as a multi-factorial health disorder. Persons with SUDs, for example, show similar adherence and relapse rates to those with asthma, type 2 diabetes, or hypertension. While SUDs are preventable and effective prevention interventions are obtainable (WHO, 2008), the goal of treatment within the context of the chronic nature of SUDs is to address the direct and indirect issues related to the use of substances and thereby reduce the burden on the individual, the workplace, the healthcare system, and other segments of society (NCIOM, 2008). Dennis et al. (2007) suggested that recovery be understood in terms of not only abstinence but also improvements in life course issues, including employment. Thus interventions to address the holistic issues associated with enhancing recovery capital and developing SUD turning points and transitions need to be addressed, rather than simply treating substance-only related issues in an acute-care format.

Kaplan (2008) argued that despite the longstanding acceptance of SUDs as a chronic disability, most treatment interventions are based on an acute-care rather than a long-term approach to recovery. To address this issue, SAMHSA is shifting from an acute care to a chronic care model, distinguished as “recovery oriented systems of care” that are more life course oriented. Recovery support services are defined as non-clinical services designed to assist consumers and families recover from SUDs and related problems. Among these hallmark services are employment services and job training. To date, more than 12 states and cities have adopted recovery oriented systems of care. To address the need for research based on a recovery oriented models of care, Laudet and White (2010) conducted an exploratory qualitative study of persons with a SUD (n = 356) across recovery stages, but not currently in treatment, to examine their perceived life priorities and service needs. The study sample, recruited from New York City neighborhoods, met the following criteria: a SUD of any illicit drug for at least one year and self-

reported abstinence for at least one month. Across stages of recovery, as measured by period of abstinence (less than 6 months, 6-12 months, 18-36 months, more than 3 years), a sizable proportion of subjects (31.1%-36.2%) identified employment as one of the major priorities in their recovery and in their current lives. In addition to recovery from SUDs (mentioned by 34.1%-49.9%), employment was the most frequently cited priority area for functioning. The authors concluded that employment, among other areas of functioning such as education, family/social relationships, and housing, still presents challenges even when abstinence is achieved and maintained. Given the large impact work has on enhancing a consumer's recovery capital from SUDs as well as overall well-being, integrating employment related services into the treatment of SUDs is important.

Work and Well-Being

Historically, most religious and secular definitions of work ethic have emphasized productive activity as central to personal and social meaning in our lives (Highhouse et al., 2010; Khattab & Fenton, 2009; Young, 2000). Traditionally, work refers to an activity that provides subsistence in the form of paid employment, as well as activities that are productive, such as unpaid household tasks (Leufstadius et al., 2009). In most Western societies, work is a major social role in daily life for most adults. Specifically, work is identified as an essential life activity that provides income, social relationships, social status, temporal structure, and meaning for individuals and their families (Leufstadius et al., 2009), and according to researchers, “participation in employment is the main road to well-being” (van Campen & Cardol, 2009, p. 56). Layard (2010), referring to numerous routine population surveys that asked about happiness and life satisfaction, identified employment and income as among the causal factors that are consistently reported, along with physical health, family status, and age.

Using the example of persons with disabilities, Leufstadius et al. (2009) suggested that work is associated with perceived better health and well-being, though this may be because healthier people work or because work fosters health and well-being. Daily routines do contribute to health and recovery. For example, in a qualitative study of employed individuals (n = 12) with persistent mental illness, the authors identified characteristics associated with the meaningfulness of work: work in and of itself is important because it makes a person feel useful and worthy (e.g., having a salary and paid vacation), work allows a person to feel that s/he is making a contribution to society and is valued as part of a group (e.g., friends and coworkers), work provides a balance in life because it requires structure and daily routines and in turn, makes a person more energized when not working; and, work contributes to a feeling of well-being and increased self-esteem.

To explore the relationship between work and quality of life, Tsaousides et al. (2008) examined the objective indicator of employment on quality of life, such as whether or not an individual was employed and the subjective indicators of employment, that is, the personal significance one attributed to work, based on the experiences of individuals who have incurred traumatic brain injury. They found that gainful employment had a positive effect on the well-being of those with traumatic brain injury in terms of quality of life and psychological well-being and protected against depression and anxiety.

Moos and Moos (2007) reported that for individuals seeking SUDs treatment, work enhanced recovery capital by protecting against relapse after remission because of the associated support in the workplace. Work is so important to the treatment of SUDs as a predictor and measure of success that “increased or retained employment or stay in or return to school” has

been identified as one of the outcome indicators in SAMSHA's (2009b) National Outcome Measures (NOMs) framework.

A Rationale for Vocational Services during SUD Treatment

Incidences of SUDs are associated with employment (Lidz, et al., 2004). A greater percentage of adults 18 or older who are unemployed are classified with SUDs (SAMHSA, 2009d), even though the average educational level of individuals with SUDs is comparable to that of the general population (Young, 2000). Adamson and Sellman (2009) suggested that because unemployment is predictive of a poor treatment outcome for SUDs, treatment may be improved by directly addressing unemployment. Based on a systematic review of the literature, the authors identified employment, as an indicator of social functioning, to be among the most consistent univariate predictors of treatment outcome. Furthermore, West (2008) cited evidence that gainful employment is one of strongest and most consistent predictors of post-treatment success and sobriety-maintenance, with employed individuals more likely to engage in treatment, complete treatment, and remain substance-free after treatment. West (2008) provided evidence that employment is associated with lowered incidence of SUDs prior to treatment, shorter rates of SUDs over a lifetime, and lower rates of SUD-related co-occurring conditions and outcomes associated. Also, SUDs are predictive of under- and unemployment even when controlling for education, age, gender, and ethnicity. These findings support the role of employment as a turning point within a consumers' SUD trajectory, specifically in the role of work to enhance recovery capital.

Given the importance of work not only for economic survival but for overall well-being, and the pattern of unemployment among those with SUDs, vocational services can contribute to successful treatment outcomes with work considered both as an element of treatment and an

outcome of treatment (Walls et al., 2009). Toward this end, Treatment Improvement Protocols (TIP), as the best practice guidelines for the treatment of SUDs, include “TIP 38: Integrating Substance Abuse Treatment and Vocational Services” (Young, 2000). The foundation of TIP 38 is the evidence-based correlation between employment and treatment retention. An employed consumer has “a legal source of income, structured use of time, and improved self-esteem which, in turn may contribute to reduced substance use and criminal activity” (Young, 2000, p. 1). Employment, from a life course perspective, is seen as a means of (re)socializing and integrating persons with SUDs into society throughout the recovery process. Gainful employment, adequate family support, and lack of co-occurring mental illness are the best predictors of successful treatment for SUDs, as cited in the protocol. Though TIP 38 emphasizes the importance of vocational assessment, Sligar and Toriello (2007) point out that a detailed model to guide counselors or vocational rehabilitation professionals in the implementation of vocational evaluation is not offered. To address this need, the authors developed an integrated model to guide the practice of vocational evaluation of consumers with SUDs and research in this area.

Additionally, TIP 38 is based on the premise, because SUDs can be a barrier to employment, that vocational services are not only important but should be a priority in treatment programs, a stated goal in treatment plan, and targeted to consumers’ individualized needs. The barrier to employment presented by SUDs is multi-faceted and may be influenced by both individual and societal factors, including: interpersonal or behavioral problems, co-occurring medical and mental health conditions, criminal records, housing instability, limited education or learning disabilities, low job, literacy or life skills, lack of appropriate job opportunities, and reluctance to hire people with a history of SUDs. To address these barriers, vocational services can improve consumers’ job-seeking skills (e.g., goal-setting, interviewing) and work-related

attitudes and behaviors (e.g., punctuality, attendance, appearance, interpersonal relationships with supervisors and coworkers).

To examine the availability and use of vocational counseling services within SUD treatment settings, West (2008) surveyed a nationally representative sample of treatment facilities (n = 159) which together employed 3,190 direct care clinicians serving newly admitted consumers (n = 55,000) during the study period. Most facilities were private (79%) and for just over half (54%), most treatment was provided on an outpatient basis. The large majority of facilities (73%) did not provide vocational counseling as a regular part of treatment services and a similar proportion did not conduct vocational evaluations or assessments of consumers. Just under a third of facilities (32%) offered job skills training, 15% offered job placement services, and only 6%, referred consumers for vocational rehabilitation services. These findings are not surprising in view of the fact that only 10% of counselors on staff reportedly had any vocational counseling training. In conclusion, West referred to repeated calls-for-action in the SUDs field to provide vocational counseling for the treatment of SUDs between the years of 1979 and 2004, which he argues have been disregarded, but perhaps with valid reasons. Reasons for not providing vocational counseling services may include the large consumer caseloads, lack of adequately trained counselors and lack of time, money and other resources to provide necessary in-service training for vocational counseling services or the services themselves. Review of the SUD treatment literature has demonstrated a clear need and argument for the integration of innovative approaches, specifically vocational counseling services, as a life course approach to addressing consumers' needs. The following section will review studies that have examined the effectiveness of integrating vocational counseling services into SUD treatment.

Key Factors for the Integration of Vocational Counseling in SUD Treatment

Research on the integration of vocational counseling interventions within the treatment of SUDs has identified key factors that future research should take into account. Specifically, these key factors include: addressing barriers to employment, enhancing consumers' motivation to engage in treatment and employment, and increasing consumers' participation in treatment. This section provides a review of these key factors as they apply to the treatment of SUDs.

Barriers to Employment

Brewington, Arella, Deren, and Randell (1987) presented a comprehensive review of the literature documenting potential consumer-, program-, or societal-level barriers relevant to the treatment of SUDs. Consumer-level barriers included financial issues (e.g., food stamps, housing, healthcare); psychological issues (e.g., mental health concerns, attitudes towards employment, problem solving skills); and other consumer characteristics (e.g., work and educational histories, illegal activity, SUDs). Program-level barriers included the modalities and philosophies of treatment programs; knowledge of staff in terms of vocational interventions; modality of choice (e.g., resident vocational counseling staff; job coaching services, employment-focused training); issues related to consumers involved with the criminal justice system (e.g., exploring the effect of criminal histories); and strategy information dissemination (e.g., integrating innovative interventions into programs). Societal-level barriers included issues related to employers (e.g., biases against hiring consumers with a history of SUDs). Brewington et al.'s (1987) review of the SUD treatment barriers demonstrated the need for a more holistic view of consumer problems, and the integration of innovative services to address the consumers' multi-faceted needs within a life course approach.

Consumer-level barriers. In an examination of the consumer self-report data from the training and employment program (TEP) study, French, Dennis, McDougal, Karuntzos, and Hubbard (1992) supported the earlier findings of Brewington et al. (1987). The study results documented that commonly reported barriers to obtaining and/or maintaining employment included continued use of substances, illegal activities, negative leisure activities, family problems, poor work attitude, and mental health and physical health problems. In response to such consumer-level barriers, employment-oriented programs for persons with SUDs, such as Substance Abuse Case Management (SACM), were initiated.

In the late 1990s, New York City, initiated the use of SACM in the Bronx to target low-income consumers with SUDs, who were less likely to complete treatment and were less likely to become employed. Substance Abuse Case Management was designed to assess consumers in order to determine the need for SUD treatment and other services. In addition, case managers referred consumers to appropriate providers, monitored their care, helped them remain in treatment, and linked them to appropriate welfare-to-work activities. To evaluate the effectiveness of SACM in the Bronx, NY, Martinez, Azurdia, Bloom, and Miller (2009) compared the SACM approach to New York City's treatment as usual which, though, included many of the same elements, were less intense and less coordinated. The study sample, selected from those receiving or applying for assistance from New York State's Safety Net (i.e., a program designed to serve childless adults and those whose temporary assistance for needy families (TANF) benefits had reached the 60-month limit), included those receiving SACM services (n = 4,670) and usual services (n = 4,161). Most subjects had no recent employment, with only about a third having worked in the previous year, and with an average age of 38 years.

The findings showed that although the general progression of services was similar for both study groups, SACM participants received services more often with higher rates of follow-up and were more likely to be referred for and enroll in SUD treatment. However, though SACM consumers were slightly more likely to be referred to an employment program, no differences were found between the two groups in terms of employment rates. The authors explained that the study period may not have been long enough for significant improvement in SUD treatment and employment outcomes, and continued follow-up was in progress. Consumer-level barriers, such as continued use of substances, lowered motivation to engage in services or seek employment, and physical and/or mental health issues may have been reasons for the lack of demonstrated effectiveness of initiatives such as the SACM program. However, program-level barriers may have also impacted the barriers to successful recovery and/or employment.

Program-level barriers. Arella, Deren, Randell, and Brewington (1990) conducted an analysis of four methadone treatment clinics in New York City. The aim of the study was to explore barriers for the integration of vocational counseling services in the SUD treatment system. The study included face-to-face and anonymous staff surveys, and case file reviews. The primary programmatic barriers identified were: (a) consumer vocational/educational needs were typically given lower priority compared with other service needs, (b) monitoring and supervision in relation to vocational counseling service utilization was generally lacking, and (c) the prevalence of critical deficits in SUD counselors' vocational counseling skills related to inadequate and/or inappropriate service provision and referrals.

Similar findings were demonstrated by Walls et al. (2009) through a review of Job Accommodation Network (JAN) data. The study found that a common barrier to successful consumer employment outcome was a discrepancy between consumer concerns and those

concerns which the counselor believed warranted attention. The authors' believed this discrepancy often lead to consumer dissatisfaction with the treatment process, and that poor outcomes may have been related to this phenomenon. Thus, treatment programs aiming to integrate vocational counseling within SUD treatment need to modify how services are delivered to meet the holistic needs of consumers and engage consumers in the treatment process. Such programmatic change can be complicated and mitigated by fiscal factors. For example, cost-effectiveness questions must be addressed when programs are considering innovative intervention adoption.

Societal-level barriers. Barriers to employment and recovery from SUDs can stem from societal-level factors. For example, Schottenfield, Pascale, and Sokolowski (1992) examined the vocational services program administered by the Connecticut Alcohol and Drug Abuse Commission and reported consumer employment related issues. The most common problems were transportation issues, child and family care concerns, and bias in the hiring process based on history of SUDs, or criminal histories. The authors reported societal-level barriers tend to be additive to the consumer- and program-level barriers associated with consumers' treatment experiences. Addressing the various barrier levels within treatment is important because lower rates of employment, job stability, and maintained recovery are correlated with higher levels of both internal and external barriers (Lee & Vinokur, 2007).

The needs of persons with SUDs are complex and interrelated. There is a need for life course approaches to SUDs treatment that address issues beyond simply those that are substance related. Interventions are required to assist consumers address the variety of treatment barriers that inhibit treatment success. Of particular importance is the consumer-level barrier of motivation. As the amount of barriers in a consumer's life increases, there is an increased

likelihood of frustration and withdrawal on the part of the consumer (Lee & Vinokur, 2007). Therefore, innovative interventions for enhancing motivation are needed.

Motivation

Motivation is considered an integral factor in the treatment of SUDs (Miller, 1985). Factors associated with consumer motivation include self-efficacy, self-direction, and self-belief (Miller, 1985; Roessler, 1989). These motivational factors are noted as important determinants for a range of behavior changes, including SUD- and employment-related behaviors. When considering motivation for employment among persons with SUDs, previous studies indicate that higher initial motivation to work is associated obtaining employment (Zanis, Coviello, Alterman, & Appling, 2001; Lee & Vinokur, 2007).

For persons with SUDs, there are many barriers to the successful obtaining and retaining of employment (see Brewington et al., 1987). However, motivation to work is one barrier that is consistently demonstrated to be associated with employment outcomes (Zanis et al., 2001). Hogue et al. (2010) examined predictors of employment among welfare recipients who had a history of SUDs. For their study, 394 consumers with various drugs of abuse were followed to explore potential return to work barriers. Results demonstrated that motivation to work was one of the strongest predictors of employment outcomes, where lower motivation was associated with lower rates of obtaining employment and vice versa. Further, their results revealed no significant association between mental health issues and/or other disabilities reported and employment outcomes. The authors noted that these findings were important for treatment development in that interventions that focused only on “modulating disability barriers is insufficient” (Hogue et al., 2010, p. 116). Because motivation to return to work is a strong

predictor of employment outcomes, treatment models need to emphasize interventions focused on enhancing motivation.

Previous studies have explored the factors associated with enhancement of motivation to work and job retention. For example, Schutt & Hursh (2009) examined the factors that affected job retention for consumers who were homeless and had comorbid SUD and psychiatric concerns. Their study consisted of semi-structured face-to-face interviews with 35 consumers focused on topics related to job retention barriers. Results of their study revealed two dominant factors associated with increased job retention: high level of support and personal motivation. For social supports, participants noted family, friends, coworkers, and members of self-help groups as the primary sources of support. Participants reported the feeling of belonging and respect as important aspects of social supports. For those participants reporting high levels of personal motivation were more likely to maintain employment and sustain recovery from SUDs as compared to those that reported low levels of motivation. In many circumstances, participants reported that increased personal motivation helped “compensate for deficient social supports” (Schutt & Hursh, 2009, p. 66).

In a related study, Braitman et al. (1995) compared barriers to employment for 782 unemployed and employed consumers in a case management program for persons with comorbid SUD and psychiatric concerns. The results revealed that motivation was the most significant barrier to employment. The authors noted that the components of motivation related to obtaining and maintaining employment included positive attitude, punctuality, confidence to work independently, and vocational history. The authors concluded that “a more thorough assessment gives counselors better insight into consumers' needs and the [foundation] necessary to provide a successful intervention” (p. 4). This study emphasized the importance of assessing the holistic

needs of consumers and matching interventions that addressed these needs. Thus, addressing consumers' motivation to work, as well as to participate in treatment is integral to the formation of effective interventions to improve outcomes for consumers with SUDs.

Participation

Successful recovery from SUDs is associated with participation in treatment (Reif, Horgan, Ritter, & Tompkins, 2004). Research has demonstrated that consumers who attend treatment regularly and actively engage in services have better SUD outcomes (Reif et al., 2004; Kang, Magura, Blankertz, Madison, & Spinelli, 2006). Further, participation in treatment is associated with improved psycho-social outcomes. For example, Wallace and Weeks (2004) reported treatment completers within a Veteran population had fewer inpatient psychiatric bed days of care, higher rates of abstinence from SUDs at 6 months follow-up, and lower rates of incarceration. Treatment completion is also associated with improved rates of post-treatment employment outcomes (Zarkin et al., 2002). One factor that has been demonstrated to increase consumer participation in the treatment of SUDs is the offering of employment related services.

A study by Reif et al. (2004) examined the impact of treatment programs that integrated employment services into traditional treatment of SUDs. The researchers used a subsample of adult consumers participating in SAMHSA-sponsored services for SUDs. This subsample yielded 988 eligible adult consumers who participated in non-methadone outpatient SUD treatment. The results of demonstrated that consumers who participated in employment counseling services had higher treatment participation than those who did not participate in employment services. Zanis et al. (2001) conducted a related study examining the impact of varying levels of employment counseling services on treatment participation and job retention outcomes. For this study, the researchers assigned consumers to one of two treatment groups: (a)

intensive vocational problem solving skills training, or (b) inter-personal skills and job readiness training. Results demonstrated that consumers receiving intensive vocational problem solving skills training had significantly higher treatment participation and job retention. Despite these promising findings, the integration of employment counseling services within traditional treatment of SUDs has yielded limited positive results (Magura et al., 2004).

Successful employment outcomes for persons with SUDs are associated with positive work attitudes (e.g., Messina, Wish, & Nemes, 2000). Further, research has demonstrated that vocational counseling services and job readiness training has an impact on work attitudes of consumers with SUDs (Staines, Magura, Foote, Deluca, & Kosanke, 2001; Magura et al., 2004). Messina et al. (2000) examined the effect of vocational counseling and job readiness training on work attitudes of 408 consumers with SUDs within a residential treatment program. Consumers received either traditional vocational counseling and job readiness training (10 months of inpatient care and 2 months of outpatient services) or an abbreviated vocational counseling and job readiness training (6 months of inpatient care and 6 months of outpatient services). The results of this study showed that consumers who received the traditional model demonstrated more positive work attitudes and better employment outcomes than consumers who received the abbreviated model. In a similar study, Leukefeld, McDonald, Staton, and Scrivner (2004) reported a positive association between vocational field experience and employment outcomes for persons with SUDs. Results also revealed that vocational counseling and job readiness training significantly improved work attitudes.

Researchers also examined the impact of length of participation in vocational counseling services and job readiness training on work attitudes and employment outcomes. For example, Staines et al. (2004) examined the effect of hours of vocational field experience for consumers

within a methadone maintenance clinic. Results demonstrated that for consumers with longer hours of participation had significantly higher Employment Attitude Tracking Scale scores and better employment outcomes. The results of this study highlighted the impact of vocational counseling for consumers with SUDs (Moulton, Wood, Heppner, & Gysbers, 2007). Blankertz et al. (2005) conducted a follow-up study to Staines et al., (2001) utilizing a similar design and method. Consumers participated in either extended vocational field experience (vocational counseling, job readiness training, and community based activities) or traditional vocational services (vocational counseling). Results demonstrated that participants who received the extended vocational field experience were more likely to obtain and sustain employment than consumers receiving traditional vocational services. Thus, these findings suggest that increased participation in vocational counseling services and job readiness training is associated with improved employment outcomes for persons with SUDs. Therefore, addressing consumer motivation and integrating innovative interventions including vocational counseling and job readiness training may help improve the success of traditional SUD treatment.

An Integrated Model of SUD Treatment

Traditional treatment of SUDs has allotted cursory attention to ancillary problem areas, such as employment. Recent research findings have revealed a need for a more holistic, life course approach for the treatment of SUDs (Dennis et al., 2007; Donnell et al., 2009). For example, employment has been identified as an essential life activity that contributes to social relationships, social status, income, and meaning for individuals and families (Leufstadius et al., 2009). Thus, integrating vocational counseling and job readiness training into the treatment of SUDs will help bridge the gap between research and treatment, as well as provide a more life course approach. The relationship between work, treatment of SUDs, and recovery fit the

concepts of life course theory. Work is seen as a turning point for persons with SUDs, eliciting a trajectory toward enhancing recovery capital. Further, researchers have identified multi-level barriers to treatment, work, and recovery, level of consumer motivation, and length of treatment participation as key factors to the successful employment and SUD related consumer outcomes. Thus, innovative, holistic approaches that address these key factors are needed within the SUD treatment system. The purpose of this study is to examine an integrated model of SUD treatment that addresses multiple areas of functioning including SUDs, vocational, and psychosocial well-being.

Summary

In recent years, SUDs have come to be recognized as a chronic disability. This disability is characterized as a persistent or recurring condition, requiring protracted treatment over time and of the whole person. As such, there is a growing emphasis on the life course approach (Hser & Teruya, 2007) and on the professional community to address this public health problem effectively (De Leon & Wexler, 2009; Hser, Hamilton, & Niv, 2009). Hser et al. (2009) discussed that while research points to certain treatment modalities and counseling techniques that should be used to yield successful SUD outcomes, limited information is available pertaining to the use of vocational counseling within SUDs treatment. Therefore, future research to examine the role of vocational counseling in producing successful outcomes for persons with SUDs still remains. In order to establish a more modernized SUD treatment delivery process, researchers need further understanding of the role of vocational counseling within the treatment of SUDs (Blankertz et al., 2004; Gilbride, Mitus, Coughlin, & Scott, 2007).

This study explored the effectiveness of an SAIOP that incorporates vocational counseling to integrate the issues of work and well-being throughout the treatment process. The

mission of Project Working Recovery (PWR), which is to assist individuals to choose, get, and keep a job as means to sustain recovery from SUDs, exemplifies this integrated focus. As an example of an innovative approach to the treatment of SUDs, examining the effectiveness of consumer participation in PWR services on work and well-being outcomes will help increase our understanding of and demonstrate the need for continued integration of evidence-based practices into SUD treatment. The following chapter will describe the methods for this study, examining the effect of a vocational counseling based SAIOP on consumer work and well-being outcomes.

CHAPTER 3: METHODS

Introduction

This chapter details the methodological approach used in this study. Included in this chapter is the description of the research questions and hypotheses, description of the data source, description of and rationale for the research design, including population, sample and sampling procedures, study procedures, and instrumentation. A description of the statistical analyses to explore the research questions and test the hypotheses, as well as ethical considerations concludes this section.

Research Questions and Hypotheses

The aim of this study was twofold. First, this study explored and examined the influence of demographic factors on length of SAIOP participation. Second, this study examined the influence SAIOP participation had on employment status at 120-day follow-up period and consumers' problem severity in terms of ASI composite scores (i.e., employment, alcohol use, drug use, and psychiatric domains). Specifically, this study examined the following research questions and hypotheses.

Research question 1: What demographic factors influence the length of SAIOP participation from baseline to 120-day follow-up period?

Research question 2: How does SAIOP participation impact consumers' work and well-being outcomes? Specifically, this research question will focus on the impact participation in a vocational counseling based SAIOP has on consumers' employment status and problem severity (i.e. employment, alcohol use, drug use, and psychiatric problems) as evidenced by change in ASI composite scores. To examine this research question, the following hypotheses will be tested.

Hypothesis 1: The longer the SAIOP participation, the more likely the participants are to be employed full-or part-time.

Hypothesis 2: As participants' SAIOP participation increases, the severity of their employment issues will decrease.

Hypothesis 3: As participants' SAIOP participation increases, the severity of their alcohol use issues will decrease.

Hypothesis 4: As participants' SAIOP participation increases, the severity of their drug use issues will decrease.

Hypothesis 5: As participants' SAIOP participation increases, the severity of their psychiatric issues will decrease.

Archival Data and Definition of Variables

This study utilized data collected from Project Working Recovery (PWR), a research study conducted within the East Carolina University (ECU) Department of Rehabilitation Studies. The data was collected over an 18 month period (January, 2009-June, 2010). Data was collected by masters and doctoral students from the Department of Rehabilitation Studies at East Carolina University. For statistical analysis, data from the original forms and Access database was entered in the Statistical Package for the Social Sciences (SPSS) release version 18.0.0 program (SPSS: An IBM Company, 2009). The primary advantage for using archival data was the ability to examine information collected over an 18-month time period, inclusive of follow-up evaluation data collection. The primary disadvantage of using archival data was the inability to collect missing data from participants. Specifically, those participants who did not complete the 120-day follow-up evaluation were not included in the statistical analyses, thus reducing the available sample size.

Definition of Variables

This section provides the definitions for the independent and dependent variables of this study. The variables included within will be defined as follows:

Demographic variables: Refers to participants' stated gender, age, ethnicity, and highest level of education completed.

Employed: Refers to participants' stated employment status as being employed either full- or part-time.

Job readiness services: Job readiness is defined as the "level of self-knowledge and knowledge of work world or amount of occupational information the individual possesses" (Farley, Little, Bolton, & Chunn, 1993, p. 9). Job readiness service refers to assistance with employment related activities, such as assessment of employability (i.e., having skills to enter the job market) and placeability (i.e., having skills to obtain a specific job), assessment of employment interest, values, and aptitudes, choosing a vocational objective, job searching, resume development and editing, and job interview preparation (Power, 2000).

Problem severity: Refers to the Addiction Severity Index (ASI) composite score rating. Composite scores result from data indicative of the individual's current status dating back 30-days, which reflects his or her subjective report of severity of problems and need for services in an identified life domain. For the purposes of the proposed study, composite score data from employment, alcohol use, drug use, and psychiatric life domains were used.

SAIOP participation: Refers to the number of hours a consumer engaged in both vocational counseling services, as well as job readiness services.

Unemployed: Refers to participants' stated employment status as not being employed.

Vocational counseling: Refers to psycho-social interventions conducted by a clinical staff member of the PWR. Psycho-social interventions included, but were not limited to individual and/or group counseling exploring issues related to relapse prevention, barriers to employment, and motivation to change SUD behavior and/or engage in employment related activities.

Research Design

This study utilized a quasi-experimental, one group pretest-posttest design. The manifestation of SUDs as presented in the factors that lead to substance use differs among people (Al-Kandari et al., 2007), and a quasi-experimental design helps ensure that the findings from the study can be applied with greater generalization about the population (Cresswell, 2009). As part of PWR services, consenting consumers were given a pretest or baseline measure upon enrollment in PWR evaluation activities. The treatment intervention was provided, and a posttest measure was given at a 120-day follow up point. Due to the lack of a comparison group within PWR, the one group pretest-posttest design is the most feasible to explore intervention effects.

Population

Participants consisted of consumers who received services from the PWR vocational counseling based SAIOP at East Carolina University's Department of Rehabilitation Studies and consented to participate in evaluation activities. Consumers excluded from the study were those admitted to PWR prior to January 1, 2009. Admission criteria for PWR services included being 18 years or older, having a history of a SUD, and being unemployed or underemployed at time of enrollment in PWR. Further criteria included being medically and psychiatrically stable at time of enrollment in PWR, and presenting with issue severity indicating need for treatment at the American Society of Addiction Medicine (ASAM) patient placement criteria intensive outpatient level at time of enrollment in PWR.

Sample and Sampling

Participant selection for this study utilized a selective sampling method. Selective sampling is when participants are deliberately chosen by using a sampling plan that selects only those with relevant characteristics (Heppner, Wampold, & Kivlighan, 2008). In the case of this study, eligible participants were consumers who enrolled in PWR and consented to participate in evaluation activities. Support for this sampling method is noted by Serlin (1987), stating “valid inference can be made to a hypothetical population resembling the sample” (p. 300). Project Working Recovery consumers were recruited from a variety of local SUD and social service programs in the Greenville, NC area, thus reducing threats to external validity.

Outreach for eligible consumers to enroll in PWR services involved contacting local SUD agencies, homeless shelters, halfway houses, and the local NC division of vocational rehabilitation services. Project Working Recovery services brochures were either faxed or hand delivered to staff at these agencies describing PWR, the services available, and enrollment information. Consumers self-referred to PWR, and those who were considered eligible after a pre-screening process received an intake appointment. This process created a pool of potential participants to participate in evaluation activities.

A total of 159 consumers enrolled in PWR services and consented to participate in evaluation activities between January 1, 2009 and June 30, 2010. Of the total eligible consumers engaged in PWR services, 69 (43%) participants matched eligibility requirements for this study (i.e. completed both baseline and 120-day follow-up evaluations). A Power Analysis was conducted to ascertain the probability of rejecting a false null hypothesis for the current study, provided the sample size has been predetermined through use of archival data. This process is fundamental in reducing the effects of bias and avoiding inaccuracies (Saunders, Lewis, &

Thornhill, 2009). The population constraints assumed for the power analysis are based on both pilot data analyzed from PWR (pre-January, 2009) and previous research examining SUD outcomes. Pilot data collected on SUD outcomes reported the mean reduction of ASI-composite score at 120-day follow-up point was 0.06 with a standard deviation of 0.14 for alcohol use. For drug use, the mean reduction was 0.05 with a standard deviation of 0.11. Effect size estimates obtained from a meta-analysis conducted by Hettema, Steele, and Miller (2005) found effect sizes for SUD outcomes ranged from 0.33 to 0.53. This study used a conservative effect size of 0.33. The power calculation shows an 86% power, at a 0.05 significance level, for a sample size of 69 and effect size of 0.33.

Procedures

Data Collection

Prior to enrollment in PWR services, consumers were initially pre-screened for eligibility, as described in sample/sampling section. Once a consumer was deemed eligible, he or she would complete the intake process. The intake process consisted of reviewing and signing of ECU Institutional Review Board (IRB) approved informed consent for research and HIPAA notification documentation (see Appendix A). Consumers that consented for research then completed a demographic and contact information form (see Appendix B), which was utilized to collect necessary demographic information and obtain contact information for researchers to conduct required follow-up surveys. The intake process concluded with the completion of the baseline PWR evaluation survey (see Appendix C; discussed in more detail in instrumentation section) and development of a Person-Centered Plan, which was the consumer's treatment plan. To assess the impact of PWR services on the work and well-being of the consumers, a follow-up

PWR evaluation survey was conducted at 120-days post intake. PWR staff conducted this evaluation either in person or by telephone contact.

The current study utilized data from those consumers consenting to and completing the PWR baseline and 120-day follow-up evaluation. Data to be collected from this participant pool includes demographic information (i.e., gender, age, ethnicity, and highest level of education completed), PWR evaluation data, and hours of participation in vocational counseling and job readiness services at PWR.

Intervention

After successful completion of the intake process, consumers received individualized services, including a combination of vocational counseling and job readiness training, as outlined in his or her Person Centered Plan. Project Working Recovery was a NC Department of Health and Human Services endorsed SAIOP, and thus consumers received services in line with the service definition for this level of care. Consumers were able to receive a maximum of 9-hours of treatment a week, in 3-hour per day increments. Services were provided by masters and doctoral students from ECU's Department of Rehabilitation Studies. Project Working Recovery staff received on-going training and supervision around the integration of EBPs, such as Motivational Interviewing (MI) and Community Reinforcement Approach (CRA), into service provision. Appendix D provides an overview of the services available to consumers enrolled in PWR. For engaging in SAIOP services, consumers were given incentives at a rate of two incentives per 3-hour day of service, and consumers were required to complete a full 3-hour day of services in order to be eligible for incentives. The incentives available to consumers of PWR were valued at \$7.00 each, and included either a) seven \$1.00 Greenville Area Transit (GREAT) bus passes; b) one \$5.00 McDonalds gift card with two \$1.00 GREAT bus passes; and/or c) one

PORT Methadone dose voucher valued at \$7.00. The methadone voucher was available solely for those consumers actively enrolled for Methadone treatment services at PORT Human Services, a substance abuse agency with a methadone clinic located in Greenville, NC.

Vocational counseling services were offered in both individual and group formats, and content was varied based on individualized treatment plan (i.e., Person Centered Plan). The primary focus of vocational counseling services revolved around the concepts of work and recovery, specifically the interaction of work related issues and the consumer's recovery from SUDs. Of particular focus were issues regarding consumers' motivation to engage in job related activities and/or recovery from SUDs. Motivational Interviewing was used by PWR staff in vocational counseling sessions to explore and enhance consumers' motivation. Further, consumer barriers to engaging in job related activities and/or recovery were also a primary focus of the services provided. Along with vocational counseling, job readiness training services were also provided. These services included such activities as assessment of employability and placeability, assessment of employment interest, values, and aptitudes, choosing a vocational objective, job searching, resume development and editing, job interview preparation, and other activities as specified in the individualized treatment plan. A variety of therapeutic techniques (e.g., MI, CRA, brief Solution Focused therapy) was used by PWR staff to engage consumers in job readiness skill training activities. Service provision at PWR was open ended and available to consumers for an indefinite time period. Services were available regardless of employment status after enrollment.

Instrumentation

The Addiction Severity Index

Background. In 1980, Thomas McLellan and collaborators from the University of Pennsylvania's Center for the Studies of Addiction developed the ASI (McLellan, Luborsky, Woody, & O'Brien, 1980). The ASI is a semi-structured diagnostic interview widely used as a standard assessment tool across a variety of treatment settings to identify problems related to SUDs among adults (Appleby, Dyson, Altman, & Luchins, 1997; Kanwischer, 2001). Generally, the ASI is of value as a practical tool for treatment providers to assess consumers' needs and problem areas. As a research instrument, the Addiction Severity Index is utilized as a measurement of change in problem severity at pre-, during, and post-treatment (Zanis, McLellan, & Corse, 1997).

The ASI is designed to measure seven areas of problems generally found amongst individuals with SUDs by evaluating substance use patterns and their impact on various aspects of daily functioning. These seven domains are employment issues, alcohol use, drug use, psychiatric problems, family and social relations, medical conditions, and legal issues. McLellan et al. (1980) offer a brief overview of each of the ASI domains. The employment issues domain is comprised of an assessment of areas of a consumers' life found to be associated with employment. Specifically, the ASI assesses recent number of days worked, the amount of income received from working, as well as factors related to work, such as having a driver's license.

The alcohol use and drug use domains assess recent (i.e., past 30 days) and lifetime use patterns, as well as self-report of perceived problem within the specific domain. The medical and psychiatric domains are comprised of self-report information related to recent and lifetime issues

pertaining to medical and psychiatric issues. For example, number of hospitalizations, history of an array of diagnoses, and current medications are included in the assessment of these domains. The family and social relations domain includes the assessment of self-reported satisfaction with marital status and with familial and social relationships. Finally, the legal domain assesses life circumstances that are related to legal issues, such as current and history of legal problems and engagement in illegal activities for money.

McLellan et al. (1980) note the assessment of these domains in the ASI results in two outputs, Severity Rating (SR) and Composite Score (CS). The SR is comprised of objective information, if available, the consumers' rating of severity, and the interviewers' rating of severity for each domain. The current study utilized CSs only, thus further description of SR is not provided. Composite scores are a mathematically derived standard score for each scale developed to provide empirical means to evaluate consumer outcomes (McLellan et al., 1980). The following is an overview of the rationale for and computation of CSs.

Composite scores. Due to the subjective nature of SRs, the ASI developers created CSs to provide "reliable and valid measures of [consumers'] status in each domain" (McGahan, Griffith, Parente, & McLellan, 1986, p. 2). The CSs are derived from consumers' current status within the previous 30-days, and reflect consumers' subjective report of problem severity and need for services in each domain. Each CS is the sum of responses to specific questions within the respective domain, with each question receiving equal weighting (McGahan et al., 1986). Specifically, the total number of questions within the ASI comprising the CS for each domain are 4 (employment issues), 6 (alcohol use), 13 (drug use), 11 (psychiatric problems), 5 (family and social relations), 3 (medical conditions), and 5 (legal issues). Complex formulas are used for the calculation of each CS in order to ensure equal weighting of all items with each item, and are

described in detail in the *Composite Score Manual* developed by McGahan et al. (1986). The resulting CS is an estimate of problem severity within the respective domain that ranges from 0 – 1, with higher scores representing greater problem severity. The authors note that CSs for each domain are not scaled alike, thus comparison of CSs across domains is not appropriate. Rather, comparisons are meaningful when single domain CSs are compared at different assessment points. For example, an appropriate comparison would be the examination of the change in alcohol use CS at baseline and 120-day follow-up point.

The following section is a review of relevant research describing the reliability and validity of the ASI CSs. This review presents information from the developers of the ASI, which is then compared to other studies reporting reliability and validity data.

Relevant research. The ASI was developed through a study of 524 male veterans with SUDs. This initial version of the ASI did not incorporate the CS scale, which was included in latter iterations. As the current study examines the influence of SAIOP participation on CSs, this review of ASI reliability and validity data will focus on studies that report information for ASI CSs. Upon development of CSs, a study by McLellan et al. (1980) included 181 participants from 3 inpatient SUD treatment centers.

Test-retest reliability, measuring the agreement on CSs collected at separate administration points, is reported for the ASI. McLellan. (1980) assessed test-retest reliability for initial administration and re-administration 3 days later. Paired *t*-test demonstrated no significant difference for mean CSs from all domains between administration points. This finding is supported by Zanis et al. (1997), who reported Spearman-Brown correlations ranging from .63 (employment issues) to .93 (alcohol use), demonstrating moderate to high test-retest reliability for CSs. Further, McLellan et al. (1980) conducted a confirmatory analysis of CSs that identified

moderate to high internal consistency Cronbach's alpha coefficients ranging from .76 (psychiatric problems) to .92 (alcohol use). This finding is supported by a study conducted by Currie, El-Guebaly, Coulson, Hodgins, and Mansley (2004) with consumers with SUDs at an outpatient setting. Results of this study showed the internal consistency Cronbach's alpha coefficients ranging for CSs ranging from .57 (drug use) to .85 (alcohol use).

Preliminary validity for the ASI was established by correlating each scale with three "independent items having clear relationships to specific problem [domains]" (McLellan et al., 1980, p. 28). Results of the test of face validity produced correlations ranging from .43 (medical problems) to .72 (alcohol use). McLellan et al. (1980) reported concurrent validity for the following ASI CSs. The results of this analyses demonstrated the employment issues CS had a moderate correlation with the Estes Employability Scale (EES; .54). The alcohol use CS had a moderate correlation with the Michigan Alcoholism Screening Test (MAST; .42). The drug use CS had a moderate correlation with the Gunderson Drug Scale (.39). The psychiatric CS had a moderate correlation with the Beck Depression Inventory (BDI; .52). The family and social relations CS had a poor correlation with the Social Adjustment Scale (SAS; .16) and the medical problems CS had a moderate correlation with the Cornell Medical Index (CMI; .58) In comparison, Carey, Cocco, and Correia (1997) examined the concurrent validity of the CSs for alcohol use and drug use domains. The results of this study demonstrated the alcohol use CS had poor correlation with the MAST (.21) and the Clinician Rating Scale – alcohol (.52), while the drug use CS had moderate correlations with the Drug Abuse Screening Test (.59) and Clinician Rating Scale – drug (.76).

Poor to moderate significant criterion validity was estimated with other SUD instruments (e.g. CAGE, Chemical Use, Abuse, and Dependence Scale), ranging from .45 to .73. In regards

to predictive validity, the ASI CSs have been examined for predicting response to treatment with individuals with SUDs. Glenn (2005) found that CSs were significant in predicting greater positive treatment outcomes in relation to discharge ratings by the treatment team. The ASI's discriminant validity has been assessed and established to differentiate between individuals with and without SUDs and/or related problems (Lehman, Myers, Dixon, & Johnson, 1996; Weston, 1993). Information on construct validity has not been reported for the ASI CSs.

Summary. Overall, evidence on the effectiveness of the ASI in assessing SUDs and related problem areas is mixed; however, previous research has demonstrated the ASI as having at least moderate psychometric soundness. For the purposes of the current study, the employment issues, alcohol use, drug use, and psychiatric problems CSs were examined. The results of previous research, demonstrating moderate reliability and validity, support the use of the ASI CSs to assess participant problem severity. The following section provides an overview of the PWR evaluation survey, the instrument to obtain consumer CS data.

PWR Evaluation Survey

This study utilized data obtained from the 40-item PWR evaluation survey (see Appendix C), comprised of the domain specific items within the ASI that comprise the CS calculations, with an additional question regarding current employment status that is not included in CS calculation. Each participant completed this survey at time of study intake, and then again at 120-day follow-up point. CS calculations were completed utilizing a pre-set formula entered into Access database software, yielding a single CS (between the range of 0 and 1) for each survey point. Data analysis included the examination of a participant's CS mean differences within the employment issues, alcohol use, drug use, and psychiatric problem domains. This process is further explained in the statistical analyses section.

Statistical Analyses

To examine the data for this study, SPSS release version 18.0.0 (SPSS: An IBM Company, 2009) was used to obtain descriptive statistics for variables in research question 1. To inform research question 1, demographic data including gender, age, ethnicity, and highest level of education completed *t*-test, ANOVA, and correlation were used as appropriate. Under research question 2, a logistic regression model was used to analyze data for hypothesis 1 and general linear models were used to analyze data for hypotheses 2-5. For the testing of hypotheses, an alpha level was set at 0.05, which is reported as a customary alpha level for social science research (Witte & Witte, 1997).

The investigation of hypothesis 1 included the use of a logistic regression model to explore the influence length of SAIOP participation has to predict point in time employment status (employed versus unemployed) at the 120-day follow-up evaluation survey. For logistic regression, there are no assumptions in regards to the distribution of independent variables. Independent variables do not need to be normally distributed, linearly related, or of equal variance within each group (Witte & Witte, 1997). To investigate hypotheses 2-5, general linear models were run to determine the influence of SAIOP participation on the employment, alcohol use, drug use, and psychiatric composite scores, respectively. For each general linear model, SAIOP participation was separated into participation in vocational counseling and participation in job readiness training to examine the effect of each service on participants' problem severity. Interactions between the two levels of participation were also examined.

Ethical Considerations

Project Working Recovery obtained ECU Institutional Review Board (IRB) approval to conduct research, and this researcher was listed as a research team member under the ECU IRB

submission. Therefore, this study did not require an additional ECU IRB submission. In terms of participant privacy, ethical considerations were considered through the analysis and report of data for this study. Coded identifiers were used in the PWR study, linking personal information of each participant to his or her specific identifier; however, information such as name, address, and phone number were not required for the purposes of this study. Therefore, for this study, the coded identifiers were linked to demographic and evaluation data only, minimizing the risk of privacy infringement.

Summary

The research design and methods support the purpose of this study to examine the influence of SAIOP participation on participants' work and well-being outcomes. Specifically, this study aimed to demonstrate that participation in a vocational counseling based SAIOP will decrease problem severity amongst employment issues, alcohol use, drug use, and psychiatric problem domains, as well as be positively related to participant employment outcomes. Limitations of the research design deal with issues around interpretation. The quasi-experimental, one group pretest-posttest design has inherent threats to internal validity, such as selection and history. Thus, interpretation of the effect of SAIOP participation on employment status and problem severity must take into account these potential threats to internal validity.

CHAPTER 4: RESULTS

Introduction to the Chapter

This chapter begins with a description of the participant attrition rate for this study, followed by a review of sample demographics. Descriptive statistics for the employment status at 120-day follow up evaluation, participation, and problem severity variables are then presented. Then, the data analysis results for the impact of demographic factors on SAIOP participation are reported. Following, results from analyses examining the impact of SAIOP participation on employment and problem severity are reported. The chapter concludes with a summary of the results.

Attrition Rate

The population for this archival study consisted of consumers who received services from PWR vocational counseling based SAIOP at ECU's Department of Rehabilitation Studies and consented to participate in evaluation activities. A total of 159 consumers enrolled in PWR services and consented to participate in evaluation activities between January 1, 2009 and June 30, 2010. The sample for this study included 69 consumers enrolled in PWR who completed both the baseline and 120-day follow up PWR evaluation survey. Thus, there was a 57% attrition rate from baseline survey to the 120-day follow up period. The following section is a description of the sample, including the distributions of demographic variables.

Sample Demographics

This section reports a description of the sample using participant demographic information. The sample consisted of adults, age 21 to 60 years, with a history of SUDs, who received services and completed the baseline and 120-day follow-up evaluation surveys at PWR.

Of the 159 consumers who enrolled in PWR between January 1, 2009 and June 30, 2010, 69 consumers comprised the usable sample for this study.

Out of the 69 participants, 43 (62.3%) were male and 26 (37.7%) were female, ranging in age from 21 – 60 years ($M = 40$ years). The average age of the male participants ($M = 40.7$ years) was similar to the average of female participants ($M = 38.9$ years). The distribution of ethnicity was 43 (62.3%) African-American and 26 (37.7%) Caucasian. The distribution of highest level of education completed was 39 (56.5%) high school degree or GED, 19 (27.5%) no high school degree, and 11 (15.9%) post-secondary education. In terms of employment status, eligibility criteria for this study required participants to be unemployed at enrollment.

In comparison, of the 90 consumers who dropped-out prior to the 120-day follow-up evaluation survey, 45 (50.0%) were male and 45 (50.0%) were female, ranging in age from 18 – 62 years ($M = 36.8$ years). The average age of the male participants ($M = 37.9$ years) was similar to the average of female participants ($M = 35.7$ years). The distribution of ethnicity was 46 (51.1%) African-American , 39 (43.3%) Caucasian, and 5 (5.6%) Other. The distribution of highest level of education completed was 60 (66.7%) high school degree or GED, 21 (23.3%) no high school degree, and 9 (10.0%) post-secondary education. For employment status at time of PWR enrollment, 90 (100%) were unemployed. The following section presents the descriptive statistics for the employment status at 120-day follow-up evaluation, participation, and problem severity variables.

Descriptive Statistics

This section consists of the descriptive statistics for the employment status at 120-day follow-up period, participation, and problem severity variables. The participation variables are reported as hours of job readiness participation and hours of vocational counseling participation.

Problem severity variables are represented by the mean ASI composite score at baseline and mean difference at 120-day follow-up period.

Employment Status at 120-day Follow-Up

The employment status variable was recorded as either employed (full- or part-time) or unemployed during the 120-day follow-up evaluation. Unemployment at the time of enrollment was criteria for eligibility. Of the 69 participants, 51 (73.9%) reported being unemployed and 18 (26.1%) reported being employed at the 120-day follow-up evaluation. Thus, 26.1% of the participants enrolled in this study reported being employed either full- or part-time at the 120-day follow-up evaluation period.

Participation

The participation variables were calculated as the total number of hours per participant of job readiness training and the total number of hours per participant of vocational counseling. Table 1 shows the mean, standard deviation, interquartile range of total hours for job readiness training and vocational counseling completed by study participants. For job readiness training, the m hours of participation ranged from 0 – 72 hours ($M = 9.20$ hours, $SD = 12.44$ hours). For vocational counseling, the total hours of participation ranged from 0 – 101 hours ($M = 12.71$ hours, $SD = 17.33$ hours). Results revealed a statistically significant positive association ($r = .576$, $p = .01$) between the hours of participation in job readiness training and vocational counseling training.

Problem Severity

Problem severity refers to participants' subjective report of severity of problems within specific life domains (i.e., employment, alcohol use, drug use, psychiatric issues). The problem severity variables are reported as the ASI composite score (CS) calculations obtained from the

PWR evaluation survey at baseline and 120-day follow-up period. Addiction Severity Index CSs are estimates of problem severity and are reported numerical with a score ranging from 0 – 1, with higher scores indicating greater problem severity. For this study, CS calculations were completed utilizing a pre-set formula (see McGahan et al., 1986) entered into Access database software, yielding a single CS for each life domain at both baseline and 120-day follow-up evaluation periods. Table 2 shows the descriptive statistics for the problem severity variables. For the employment issues composite score, the mean baseline score was .640 (.189) and the mean difference at 120-day follow-up evaluation point was -.071 (.208). For the alcohol use composite score, the mean baseline score was .126 (.168) and the mean difference at 120-day follow up evaluation was -.033 (.176). For the drug use composite score, the mean baseline score was .111 (.111) and the mean difference at 120-day follow up evaluation was -.043 (.090). For the psychiatric problems composite score, the mean baseline score was .324 (.231) and the mean difference at 120-day follow up evaluation was -.082 (.251). The following section reports the results for hypotheses testing.

Data Analysis Results for Hypothesis Testing

This section includes the results of the analyses for each research question and hypothesis. This information is followed by a summary of the research question and hypotheses testing results.

Research Question 1 Data Analyses

Research question 1: What demographic factors influence SAIOP participation rates from baseline to 120-day follow-up period? Specifically, the participation rates of job readiness training and vocational counseling by gender, ethnicity, highest level of education, and age respectively were examined. Table 3 shows a summary of results for the influence of

Table 1

Service Participation Distribution

Participation Variable	<i>M</i> (SD)	Quartile 1	Quartile 3
Job Readiness Participation (n=69)	9.20 (12.44)	1.13	14.38
Vocational Counseling Participation (n=69)	12.71 (17.33)	0.88	17.13
Correlation	.576 (p = .01)		

Note. Correlations with *p* – values less than .05 are shown in boldface.

Table 2

Problem Severity Descriptive Statistics

Domain	Evaluation point	<i>M</i> (SD)	Minimum	Maximum
Employment Composite Score	Baseline ¹	.640 (.189)	.318	1.000
	120-day follow-up ¹	.569 (.229)	.000	1.000
	<i>M</i> difference at 120-day follow-up ¹	-.071 (.208)	-.620	.430
Alcohol Composite Score	Baseline ¹	.126 (.168)	.000	.773
	120-day follow-up ¹	.093 (.175)	.000	.897
	<i>M</i> difference at 120-day follow-up ¹	-.033 (.176)	-.470	.770
Drug Composite Score	Baseline ²	.111 (.111)	.000	.435
	120-day follow-up ²	.066 (.096)	.000	.546
	<i>M</i> difference at 120-day follow-up ²	-.043 (.090)	-.370	.110
Psychiatric Composite Score	Baseline ¹	.324 (.231)	.000	.818
	120-day follow-up ¹	.242 (.243)	.000	.818
	<i>M</i> difference at 120-day follow-up ¹	-.082 (.251)	-.680	.520

Note. ¹ *n* = 69; ² *n* = 68.

Table 3

Demographic Factors Impact on SAIOP Participation

Demographic factor	M(SD)	M(SD)	M(SD)	P-value
Gender	Male ¹	Female ²		
Job Readiness	10.64 (14.13)	6.83 (8.73)		.170
Vocational Counseling	13.27 (18.46)	11.79 (15.59)		.722
Ethnicity	African-American ¹	Caucasian ²		
Job Readiness	9.57 (10.59)	8.60 (15.22)		.776
Vocational Counseling	10.65 (10.59)	16.13 (24.68)		.290
Education	No High School Degree ³	High School Degree/GED ⁴	Post- Secondary Education ⁵	
Job Readiness	15.67 (18.02)	7.11 (9.31)	5.45 (5.13)	.024
Vocational Counseling	12.89 (13.92)	11.84 (18.68)	15.50 (18.88)	.733
	Correlation	P-value		
Age				
Job Readiness	-.104	.394		
Vocational Counseling	.176	.148		

Note. Significant results with p-values less than .05 are shown in boldface. ¹ n = 43; ² n = 26; ³ n = 19; ⁴ n = 39; ⁵ n = 11

demographic factors on SAIOP participation. To examine the influence of gender and ethnicity, independent sample t – tests for mean comparisons were computed. One-way ANOVA was computed to examine the influence of highest level of education. To examine the influence of age, Pearson correlations were computed.

Gender. On average, job readiness training participation was 10.64 (14.13) hours for male participants and 6.83 (8.73) hours for female participants. The results of a t – test comparison on gender mean difference for job readiness training participation was $t(67) = 1.386$, $p = .170$. Vocational counseling participation, on average was 13.27 (18.46) hours for male participants and 11.79 (15.59) hours for female participants. The results of a t – test comparison on gender mean difference for vocational counseling participation was $t(67) = .357$, $p = .722$. In summary, independent samples t – tests demonstrated no significant mean difference in SAIOP participation in terms of gender.

Ethnicity. Job readiness training participation, on average, was 9.57 (10.59) hours for African-American participants and 8.60 (15.22) hours for Caucasian participants. The results of a t – test comparison on ethnicity mean difference for job readiness training participation was $t(67) = .287$, $p = .776$. The results of a t – test comparison on ethnicity mean difference for vocational counseling participation was $t(67) = -1.076$, $p = .290$. In summary, independent samples t – tests demonstrated no significant mean difference in SAIOP participation in terms of ethnicity.

Highest level of education. On average, job readiness training participation was 15.67 (18.02) hours for participants with no high school degree, 7.11 (9.31) hours for participants with high school degree or GED, and 5.45 (5.13) hours for participants with post-secondary education. The results of ANOVA test on highest level of education mean difference for job readiness training was $F(2,66) = 3.93$, $p = .024$. Vocational counseling participation, on average,

was 12.89 (13.92) hours for participants with no high school degree, 11.84 (18.68) hours for participants with high school degree or GED, and 15.50 (18.88) hours for participants with post-secondary education. The results of ANOVA test on highest level of education mean difference for vocational counseling was $F(2,66) = .188, p = .829$. In summary, one-way ANOVA test demonstrated a significant mean difference in job readiness participation in terms of highest level of education, and no significant mean difference in vocational counseling participation. Post Hoc Bonferroni analysis revealed the significant result for highest level of education and job readiness training was between no high school degree and high school degree or GED levels ($p = .038$). No significant difference was revealed between no high school degree and post-secondary education ($p = .081$) or between high school degree or GED and post-secondary education ($p = 1.000$).

Age. Results of a Pearson correlation did not reveal a significant correlation, $r = -.104, p = .394$, between participant age, ranging from 21 – 60 years, and job readiness training participation. Results of a Pearson correlation did not reveal a significant correlation, $r = .176, p = .148$, between participant age and vocational counseling participation. In summary, Pearson correlations did not reveal a statistically significant relationship between the age of a participant and the hours of SAIOP participation.

Research Question 2 Data Analyses

Research question 2: How does SAIOP participation impact consumers' work and well-being outcomes? Specifically, this research question focused on the impact participation in a vocational counseling based SAIOP has on consumers' employment status and problem severity (i.e., employment, alcohol use, drug use, and psychiatric problems) as evidenced by change in ASI composite scores. To inform research question 2, the following 5 hypotheses were tested.

For hypothesis 1, a logistic regression model was used to examine the impact of participation on employment status at 120-day follow-up period. Development of the logistic regression model included the effect job readiness training, vocational counseling, the interaction of job readiness training, and demographic variables (i.e., gender, ethnicity, highest level of education, and age) as adjustment factors. The model equation is: $\text{logit}(\text{Prob}(\text{employed})) = (\beta_0 + \beta_1 * \text{job readiness} + \beta_2 * \text{vocational counseling} + \beta_3 * \text{job readiness} \times \text{vocational counseling} + \beta_4 * \text{gender} + \beta_5 * \text{ethnicity} + \beta_6 * \text{highest level of education} + \beta_7 * \text{age})$. Table 4 shows the results of the logistic regression analysis.

For hypotheses 2 – 5, general linear models were used for each dependent variable, specifically ASI composite score mean differences from baseline to 120-day follow-up period. In the models, the explanatory variables include job readiness training hours and vocational counseling hours representing participation and demographic variables (i.e., gender, ethnicity, highest level of education, and age) as adjustment factors. Table 5 shows the results for the univariate ANOVA on employment, alcohol use, drug use, and psychiatric composite score mean differences.

Hypothesis 1 data analyses. Hypothesis 1: The higher the SAIOP participation, the more likely the participants are to be employed full- or part-time. The logistic regression analysis demonstrated significant main effects of job readiness training, $\beta = .353, p = .040$, and vocational counseling, $\beta = .143, p = .014$. Thus, as the hours of participation in job readiness training or vocational counseling increases, so does the likelihood of a participant being employed at 120-day follow-up period. A significant interaction between job readiness training and vocational counseling, $\beta = -.010, p = .009$, was also reported. Specifically, as the number of hours in job readiness training increases, the effect of vocational counseling to predict employment status decreases, and vice versa.

Table 4

Logistic Regression Analysis for Impact of Participation on Employment Status

Model	β	<i>p</i> -value
Job Readiness Participation	.353	.040
Vocational Counseling Participation	.143	.014
Job Readiness x Vocational Counseling	-.010	.009

Note. Significant results with *p*-values less than .05 are shown in boldface.

Table 5

General Linear Models for Problem Severity Composite Scores

Problem Severity Domain	Job Readiness Training	Vocational Counseling	Job Readiness x Vocational Counseling
Employment Composite Score Difference	$F = 2.27$ $p = .137$ $\beta = .007$	$F = .652$ $p = .423$ $\beta = .002$	$F = 4.48$ $p = \mathbf{.038}$ $\beta = .001$
Alcohol Use Composite Score Difference	$F = .048$ $p = .828$	$F = .375$ $p = .543$	$F = .027$ $p = .870$
Drug Use Composite Score Difference	$F = .062$ $p = .805$ $\beta = -.001$	$F = 4.23$ $p = \mathbf{.044}$ $\beta = .002$	$F = 5.021$ $p = \mathbf{.029}$ $\beta = -.001$
Psychiatric Composite Score Difference	$F = .276$ $p = .601$	$F = .219$ $p = .641$	$F = .077$ $p = .782$

Note. Significant results with p-values less than .05 are show in boldface.

The odds ratio or effect size estimation for the logistic regression model was also calculated. For the effect of job readiness training, the odds ratio is 1.4. Thus, on average, for each 1 hour increase in job readiness participation, the probability of being employed at 120-day follow-up evaluation point increases. The effect of vocational counseling has an odds ratio of 1.15. Therefore, on average, for each 1-hour increase in vocational counseling, the probability of being employed at 120-day follow-up increases.

In summary, logistic regression analysis supported hypothesis 1. A main effect of job readiness training and vocational counseling was demonstrated, inferring that as SAIOP participation increased, as did the likelihood of being employed at 120-day follow-up period. The results of the model analysis also reported an interaction between job readiness and vocational counseling with a negative direction. This interaction indicates that as the number of hours in job readiness training increases, the effect of vocational counseling to predict employment status decreases, and vice versa.

Hypothesis 2 data analyses. Hypothesis 2: As participants' SAIOP participation increases, the severity of their employment issues will decrease. When adjusting for demographic factors, the univariate ANOVA demonstrated no significant main effect for job readiness training, $F = 2.27, p = .137$, or vocational counseling, $F = .652, p = .423$ on the employment composite score. However, results indicated a significant interaction of job readiness training vocational counseling, $F = 4.48, p = .038$, on the employment CS. The significant interaction shows that as the hours of vocational counseling increases, so does the effect of job readiness training on the employment CS and vice versa. Despite the significant interaction, the results do not support the hypothesis for increased SAIOP participation decreasing the employment problem severity.

Hypothesis 3 data analyses. Hypothesis 3: As participants' SAIOP participation increases, the severity of their alcohol use issues will decrease. When adjusting for demographic factors, the univariate ANOVA demonstrated no significant main effect for job readiness training, $F = .048, p = .828$, or vocational counseling, $F = .375, p = .543$ on the alcohol use composite score. Further, results indicated no significant interaction between job readiness training and vocational counseling, $F = .027, p = .870$. The results of the univariate ANOVA do not support the hypothesis for increased SAIOP participation decreasing the alcohol use problem severity.

Hypothesis 4 data analyses. Hypothesis 4: As participants' SAIOP participation increases, the severity of their drug use issues will decrease. When adjusting for demographic factors, the univariate ANOVA demonstrated no significant main effect for job readiness training, $F = .062, p = .805$. Conversely, results showed a significant main effect of vocational counseling, $F = 4.23, p = .044$ on the drug use composite score. Thus, higher levels of vocational counseling participation were associated with lower drug use problem severity. The magnitude of this effect is $\beta = .002$, resulting in a decrease in drug use CS by .002 for each hour of vocational counseling. Further, results indicated a significant interaction between job readiness training and vocational counseling, $F = 5.02, p = .029$. The significant interaction shows that as the hours of vocational counseling increases, so does the effect of job readiness training. Conversely, as the hours of job readiness training increases, the effect of vocational counseling decreases. The results of the univariate ANOVA support the hypothesis for increased SAIOP participation decreasing the drug use problem severity.

Hypothesis 5 data analyses. Hypothesis 5: As participants' SAIOP participation increases, the severity of their psychiatric issues will decrease. When adjusting for demographic

factors, the univariate ANOVA demonstrated no significant main effect for job readiness training, $F = .276, p = .601$, or vocational counseling, $F = .219, p = .641$ on the psychiatric composite score. Further, results indicated no significant interaction between job readiness training and vocational counseling, $F = .077, p = .782$. The results of the univariate ANOVA do not support the hypothesis for increased SAIOP participation decreasing the psychiatric problem severity.

Summary

This study explored the demographic factors that have an effect on the amount of SAIOP participation and the influence SAIOP participation had on participant problem severity. Demographically, the majority of the participants were male (62.3%) compared to female (37.7%), African-American (62.3%) compared to Caucasian (37.7%), with an average age of 40 years. Participants who had a high school degree (56.5%) formed most of the participants in terms of highest educational level attained, as compared to no high school degree (27.5%) and post-secondary education (15.9%).

To examine research question 1, independent sample t – tests were used for dichotomous factors such as gender and ethnicity, in order to determine their influence on job readiness and vocational counseling participation. The results showed that there was no significant effect of gender or ethnicity on SAIOP participation. In terms of highest educational level attained, one-way ANOVA was used to examine the effect on participation. The results showed no significant effect between level of education and participations in job readiness and vocational counseling. Finally, Pearson correlation was used to determine the effect of age on SAIOP participation. Results demonstrated no significant relationship.

To examine research question 2, a logistic regression model was used to examine the effect of SAIOP participation on employment status at 120-day follow-up period. Results demonstrated a significant effect of job readiness training and vocational status on employment status. Thus, supporting hypothesis 1, the more hours of SAIOP participation, the more likely participants were to report full- or part-time employment at 120-day follow-up point.

General linear models were used to examine the effect of SAIOP participation on participants' problem severity among employment, alcohol use, drug use, and psychiatric life domains. Univariate ANOVA results demonstrated no significant effect of job readiness training or vocational counseling on decreasing problem severity among employment, alcohol use, and psychiatric domains. Results demonstrated a significant main effect of vocational counseling on drug use problem severity, supporting hypothesis 4 that increased vocational counseling participation was associated decreased drug use problem severity. However, job readiness training participation did not yield a significant effect on drug use severity. Significant interactions between job readiness training and vocational counseling were found for employment severity and drug use severity. Analysis of these interactions showed that as the effect of vocational counseling on the employment CS increases, so does the effect of job readiness training and vice versa. Also, as the effect of vocational counseling on the drug use CS increases, so does the effect of job readiness training. Conversely, as the effect of job readiness training on drug use CS increases, the effect of vocational counseling decreases. Findings from the results of statistical analyses computed with the data from this study are discussed in the following chapter.

CHAPTER 5: DISCUSSION

Introduction to the Chapter

This chapter begins with a summary of the study's purpose, variables, sample, and data collection procedures. Following this summary, the results of sample demographics, descriptive statistics for the study variables, and research questions and hypotheses analyses are discussed. Next, the limitations of the study are presented, followed by a discussion of the implications for substance abuse practitioners and administrators, and future research. A final summary concludes this chapter.

Summary of the Study

The purpose of this study was to explore the influence of an innovative, life course focused treatment approach for consumers with SUDs. A quasi-experimental design, including logistic regression and general linear models, was used to examine archival data collected from PWR SAIOP clinic. Specifically, this study explored the impact of an innovative intervention that prepares consumers in SUD treatment for gainful employment, a potential turning point, for the purpose of improving work and well-being outcomes.

This study applied a life course theoretical framework to provide an understanding of the effect a vocational counseling based SAIOP had on work and well-being outcomes for consumers with SUDs. For this study, work and well-being outcomes included seeking and gaining employment, and the reduction of problem severity among specific life domains (i.e., employment issues, alcohol and drug use, psychiatric). Associations between the number of hours consumers participated in PWR SAIOP and both employment status and problem severity ratings in specific life domains at the 120-day follow-up period were hypothesized. To test hypotheses, logistic regression and general linear model analyses were conducted with SAIOP

participation, employment status, and problem severity variables (i.e., ASI composite scores for employment, alcohol use, drug use, and psychiatric problems). Additionally, demographic variables (i.e., gender, ethnicity, highest level of education, and age) were included into the logistic and general linear models as adjustment factors. Inclusion of adjustment factors allowed for a more accurate determination of SAIOP participation effect on employment status and problem severity variables.

The current sample consisted of 69 participants who were enrolled in PWR services between January 1, 2009 and June 30, 2010, consented to participate in evaluation activities, and completed both the baseline and 120-day follow-up evaluation surveys. A selective sampling method was used to select participants from the PWR consumer population that met study inclusion criteria (Serlin, 1987). Similar sample selection techniques were utilized by French et al. (1992) to select a sample of consumers receiving methadone maintenance for study participation. Consumers receiving methadone treatment were selected to receive employment training services, and the study assessed the effect of participation on employment outcomes and substance abuse outcomes. The selection methods for the current study differ somewhat from French et al. (1992); however, the aim of both studies was to recruit participants who were currently enrolled in substance abuse treatment programs.

As part of the enrollment process for PWR services, participants of the current study completed the intake process that was facilitated by PWR staff (masters and doctoral students in the Rehabilitation Studies program at ECU). Participants completed the PWR evaluation survey, derived from the ASI (McLellan et al., 1980), and demographic forms during the intake process. The PWR evaluation survey included specific items from the ASI that comprise the CS calculations, with an additional question regarding current employment status (not included in

CS calculation). The use of ASI CSs to ascertain problem severity among life domains (i.e., employment, alcohol use, drug use, psychiatric issues) is found in many studies with adult consumers with SUDs (Currie et al., 2004; Glenn, 2005; Lehman et al., 1996; McLellan et al., 1980; Weston, 1993). Glenn (2005) for example, utilized the ASI in its entirety and extracted the CSs from the questionnaire responses. Weston (1993), on the other hand, utilized a survey that selected specific CSs (i.e., alcohol use, drug use, medical issues, and psychiatric issues) that matched with the purpose of the study. Somewhat different from previous studies, the current study utilized an evaluation survey comprised specifically of those ASI items used in the calculation of CSs, not the ASI in its entirety.

For the current study, the raw data for participants was collected, entered, and analyzed. Analyses were run to describe the sample and to examine the associations between SAIOP participation and work and well-being outcomes. The following section is a discussion of the results of this study.

Interpretation of Results

Provided in this section is a discussion of the results of statistical analyses reported in the previous chapter. First, this section discusses the sample's attrition rate, demographics, and descriptive statistics for the primary variables. Following this discussion, the findings from statistical analyses conducted to investigate research questions and hypotheses are discussed.

Attrition Rate

The sample for the current study was selected from a total of 159 eligible consumers enrolled in PWR services who consented to complete evaluation surveys. Of the 159 eligible consumers, 69 consumers completed both the baseline and 120-day follow-up evaluation surveys, thus comprising the usable sample for the current study. A 57% attrition rate for the

current study is similar to those found with other intensive outpatient SUD treatment program rates, which average 50% attrition rates (Gonzalez & Rosenheck, 2002).

Sample Demographics

The sample for this study was comprised of 69 eligible consumers enrolled in PWR between January 1, 2009 and June 30, 2010. Participants ranged in age from 21 – 60 years ($M = 40$ years), were mostly male (62.3%), African-American (62.3%), and mostly had a high school degree or GED (56.5%). Per the study's eligibility requirements, all participants were unemployed upon enrollment. A comparison of this study's sample demographics to related literature is presented in Table 6.

Comparison studies that were chosen focused on the examination of a vocational counseling based intervention within a SUD treatment program. The sample of the current study was similar to the selected comparison studies in terms of mean age of participants (Dennis et al., 2007; Martinez et al., 2009; Staines et al., 2004). In terms of gender distribution, the current study is similar to two of the comparison studies, with participants being mostly male (Martinez et al., 2009; Staines et al., 2004). The participants of the current study were mostly African-American, which is similar to two of the comparison studies (Dennis et al., 2007; Staines et al., 2004). The highest level of education was sparsely reported in the comparison studies. Two studies reported the percentage of high school or GED completion, while the third study did not report level of education information. For those studies that did report, the percentage of participants with a high school degree or GED was similar. Lastly, the current study was similar to the three comparison studies in terms of employment status at study entry (Dennis et al., 2007; Martinez et al., 2009; Staines et al., 2004).

Table 6

Comparison of Participant Demographics Among Vocational Intervention SUD Studies

	Staines et al., 2004	Dennis et al., 2007	Martinez et al., 2009	Current Study, 2010
<i>M</i> Age ^a	43.8	34.1	38.0	40.0
Gender				
Male	58.0%	39.0%	70.2%	62.3%
Female	42.0%	61.0%	29.8%	37.7%
Ethnicity				
African-American	68.0%	89.0%	43.5%	62.3%
Caucasian	32.0%	9.0%	45.2%	37.7%
Other	<i>na</i>	2.0%	11.3%	<i>na</i>
Highest Level of Education				
No High school Degree	<i>na</i>	<i>na</i>	<i>na</i>	27.5%
High School Degree/GED	65.0%	53.0%	<i>na</i>	56.5%
Post Secondary Degree	<i>na</i>	<i>na</i>	<i>na</i>	15.9%
Employment Status at Study Entry				
Unemployed	0.0%	84.0%	83.0%	100.0%
Employed	100.0%	16.0%	17.0%	0.0%

Note. *na* = Data not available. ^a Years.

Overall, the sample demographics of the current study appeared similar to previous studies that examined a vocational counseling intervention within SUD treatment. These demographic trends demonstrate an over representation of male consumers. A possible interpretation of these findings is the likelihood for females to have more barriers to treatment entry than males. Specifically, research has demonstrated females are less likely to enter treatment for SUDs due to childcare responsibilities, stigma related to entering treatment, and less support for entering treatment (Staines et al., 2004). Further, the findings represent an over representation of African-American consumers. There were mixed findings in previous literature regarding the ethnicity distribution. For this study, the location and referral sources of the PWR clinic may have played a role in the skewed distribution. For instance, according to the U. S. Census Bureau (2010), the county where PWR was located has a higher proportion of African-American persons than North Carolina as a whole (34.8 and 21.5% respectively). This section continues with a discussion of the results of descriptive statistics.

Descriptive Statistics

This section reports the descriptive statistics for the employment status at 120-day follow-up period, participation, and problem severity variables. For the purposes of the current study, participation included both the hours of job readiness and hours of vocational counseling services received by participants. The problem severity variables were represented by the mean CS at baseline and the mean CS difference at 120-day follow-up period.

Employment status at 120-day follow-up. Descriptive statistics revealed that 18 (26.1%) of the 69 participants were employed either full- or part-time at the 120-day follow-up period. The percentage of participants employed for this study is lower than those reported in previous studies, with similar follow-up period evaluation. For example, Staines et al. (2004)

reported a 65% employment at 90-day follow-up, while Martinez et al. (2009) reported a 37.6% employment at 180-day follow-up. There are many potential explanations for the variance in participant employment at follow-up evaluation periods.

Specifically, Brewington et al. (1987) describe barriers to employment for persons with SUDs at the consumer, programmatic, and societal level. Barriers such as participant motivations, programmatic ideologies, and societal biases in hiring individuals with a history of SUDs all can affect the rate of employment post-treatment. One such barrier, namely participation in services, was explored in this study.

Participation. For this study, participation was conceptualized as the number of hours a participant participated in job readiness and vocational counseling services. The positive significant association between hours of services suggests that participation in one service was accompanied by participation in the other service. Similar findings were found in previous studies, where participants were more likely to engage in job related activities (e.g., resume writing, job searching) when receiving vocational counseling support services (Magura et al., 2004; Staines et al., 2004). Participation in SUD treatment is noted as an integral part of treatment success (Miller, 1985) and this success is demonstrated to be furthered by vocational counseling and job readiness training for persons with SUDs (Messina et al., 2000). Thus, the positive association between job readiness and vocational counseling services in the current study provides support for said services.

Problem severity. For the current study, participants' problem severity was measured with subjective report of problems within specific life domains (i.e., employment, alcohol use, drug use, psychiatric issues). Specifically, problem severity was captured as a CS calculated by responses on the PWR evaluation survey using a pre-set formula (McGahan et al., 1986).

Descriptive statistics, including mean and standard deviation, were conducted for the baseline, 120-day follow-up, and mean difference at 120-day follow-up for CS within each life domain. Of particular importance, descriptive statistics revealed a decrease in problem severity between baseline and 120-day follow-up period for all life domains examined. This trend is similar to findings in previous studies. For example, Dennis et al. (2007) reported a decrease in financial problems, psychological issues, and an increase in income from work after vocational intervention for persons with SUDs. Further, the reduction of problem severity is also important for the development of recovery capital, helping to create a shift in recovery trajectory (Hser et al., 2007).

Results of Research Questions and Hypotheses Testing

Research question 1: This research question explored the influence of participant demographic factors (i.e., gender, ethnicity, highest level of education, age) on SAIOP participation rates from baseline to 120-day follow-up period. The following is a discussion of the data analyses results and comparison of results to previous literature.

Data analyses revealed no statistically significant differences between male and female participation rates for job readiness training or vocational counseling services. This finding was similar to previous studies, which demonstrated no mean differences in participation rates within SUD treatment between genders (Kemp et al., 2004; Martinez et al., 2009; Su, Larison, & Ghadially, 1997). Despite a lack of statistical significance between genders in terms of participation in the current study, the actual mean difference is important to note. Specifically, for participation in job readiness training, the mean participation was 10.64 hours for males and 6.83 hours for females. Although this difference did not yield statistical significance, there is a notable trend that males participated in job readiness training more than females. A possible

interpretation for this trend is the over representation of males participants in this study. This trend was not found between genders for vocational counseling.

In terms of the influence of ethnicity, data analyses revealed no statistically significant differences between African-American and Caucasian participants. Previous studies have reported various findings in terms of ethnicity and SUD treatment participation rates. For example, Caetano (2003) found that Caucasian males were more likely to participate in alcohol related outpatient treatment than African-American or Hispanic males. Further, Morgenstern and Bux (2003) reported similar findings that Caucasian and Hispanic consumers in treatment for cocaine use disorders were more likely to remain in treatment, and have higher participation rates than African-American consumers. For the current study, examination of the actual mean difference in participation between African-American and Caucasian participants reveals a trend similar to results in previous studies. Specifically, for participation in vocational counseling services, the mean participation was 10.65 hours for African-American participants and 16.13 hours for Caucasian participants. This trend was not found for participation in job readiness training between ethnic groups. A possible interpretation of this trend is that African-American participants were less willing to or comfortable with engaging in vocational counseling as opposed to job readiness training. Support for this interpretation is discussed in a study by Vogel, Wester, and Larson, who suggest that African-American culture take more of a 'tough it out' approach to emotions than other cultures (2007).

For highest level of education, data analyses revealed a statistically significant difference in job readiness training participation, but not for vocational counseling participation. Post Hoc Bonferroni analysis demonstrated this difference was between the education levels of no high school degree and high school degree or GED. This result could be interpreted as those

participants with no high school degree required more job readiness training to increase their ability to choose, get, and keep a job. Consumers with a high school degree or GED and higher were similar in terms of the amount of hours participating in job readiness training. Comparison to previous literature with similar a similar treatment model (i.e., vocational counseling based SUD treatment) is difficult due to the minimal reporting and analysis of highest level of education and participation (Dennis et al., 2007; Martinez et al., 2009; Staines et al., 2004).

Lastly, the influence of age on SAIOP participation was examined, and data analyses revealed no statistically significant association between consumer age and participation. This finding was inconsistent with previous literature on SUD treatment participation. For example, a study by Whiston and Brecheisen (2002) in which parolees with a history of SUDs engaged in vocational counseling revealed a significant association between age and participation. Results of their study revealed that the older the participant, the more hours of vocational counseling services were completed. These results were similar to those reported by Dennis et al. (2007), reporting that participants between 30 and 49 years had higher levels of treatment participation as compared to participants between 18 and 29 years. Results of their study also revealed that participants 30 and 49 years had a greater percentage of retained abstinence up to 5 years post-treatment.

In summarizing the results of analyses for research question 1, the only demographic factor that had a statistically significant influence on SAIOP participation was highest level of education. Specifically, the difference was demonstrated between participants with no high school degree and those with a high school degree or GED. Due to the lack of similar previous research reporting the impact of level of education and treatment participation, comparison of these results is difficult. However, considering this finding within a life-course perspective, these

results could be interpreted as those seeking to develop a higher level of recovery capital are more likely to participate in such activities (i.e., job readiness training). Hser et al. (2007) in describing the concept of recovery capital, noted that employment is a primary source of recovery capital. Participants with no high school education, who are also motivated to increase recovery capital through employment, may have sought job readiness training as a means to increase their likelihood of choosing, getting, and keeping a job.

The other demographic factors (i.e., gender, ethnicity, age) were not found to have a statistically significant impact on SAIOP participation. However, examination of actual mean differences revealed possible trends. For example, male participants tended to engage more in job readiness training than female participants. Also, Caucasian participants tended to participate more in vocational counseling services than African-American participants. This finding is supported by previous literature, noting a similar difference between ethnicity in terms of treatment participation (Caetano, 2003; Morgenstern & Bux, 2003).

Research question 2: This research question explored the impact of SAIOP participation on consumers' work and well-being outcomes. Specifically, this research question was explored through five hypotheses that examined the impact of participation in job readiness training and vocational counseling services on consumers' employment status and problem severity (i.e., employment, alcohol use, drug use, psychiatric issues). The following is a discussion of the data analyses results for each hypothesis and comparison of results to previous literature.

Hypothesis 1: The longer the SAIOP participation, the more likely the participants are to be employed full or part time. Due to the combination of categorical and continuous variables, a logistic regression model was used to examine the impact of participation on employment status at 120-day follow-up period. Logistic regression models are used for prediction of the probability

that an event (i.e., gaining employment) will occur (Witte & Witte, 1997). Data analyses supported a positive significant association between the length of SAIOP participation and employment status at 120-day follow-up period. Specifically, as the hours of participation in job readiness or vocational counseling increases, so did the likelihood of a participant being employed full- or part-time.

These findings are similar to previous literature with similar treatment interventions. For example, Staines et al. (2004) reported that consumers who received vocational counseling services, compared to a treatment as usual control group, were more likely to be employed at 6-month follow-up period. In their study, consumers received similar job readiness training (e.g., resume development, job search, and job interview assistance) and intensive individual counseling focused on vocational issues. Considering these findings within a life course theoretical framework, employment can be seen as a turning point which can alter the SUD trajectory towards recovery and the enhancement of recovery capital. To this end, consumers who participated more in job readiness training and vocational counseling were more likely to view becoming employed as a transition in their recovery process. As noted by Elder (1998), such a transition has the potential to alter one's life course trajectory, in this case towards recovery. Following a life course theory approach, employment being seen as a transition towards recovery for consumers with SUDs would also include reduction in problem severity in multiple life domains. Hypotheses 2 – 5 for the current study examined the impact of participation on problem severity across four life domains (i.e., employment, alcohol use, drug use, and psychiatric issues).

Hypothesis 2: As participants' SAIOP participation increases, the severity of their employment issues will decrease. For this study, employment problem severity was derived from

the ASI CS calculation, and comprised of employment assets (e.g., driver's license, automobile, days of paid work) held by the consumer (MaGahan et al., 1986).

Results of data analyses did not support the hypothesis for increased participation in job readiness training and/or vocational counseling decreasing the employment problem severity. One reason for this result may be related to the inherent barriers to employment that consumers with SUDs face. Specifically, review of consumer-level barriers demonstrated that transportation issues and inconsistent work history were common for this population (Brewington et al., 1987; French et al., 1992). Such barriers are difficult to resolve, especially within a 120-day time frame. As the employment CS is comprised of employment assets such as automobile available for use and number of days worked, consumer-level barriers may have influenced the impact of SAIOP participation.

Although the results did not support the hypothesis, data analyses did reveal a significant interaction between job readiness training and vocational counseling in terms of SAIOP participation. This interaction demonstrated that as the hours of job readiness training increases, as does the effect of vocational counseling and vice versa. Thus, participating in both job readiness training and vocational counseling increases the impact of the other service. This reinforcement effect is similar to that found by Staines et al. (2004), where consumers receiving intensive individual counseling and job readiness services yielded better employment related outcomes. Therefore, the results of this study support the combining of job readiness training and vocational counseling within SUD treatment towards improving intervention efficacy.

Hypothesis 3: As participants' SAIOP participation increases, the severity of their alcohol use issues will decrease. For this study, alcohol use problem severity was derived from the ASI CS calculation, and comprised of questions regarding the use of alcohol (e.g., days of use, days

of intoxication, days troubled by use) within 30 days prior to completing the assessment (MaGahan et al., 1986).

Results of data analyses did not support the hypothesis for increased participation in job readiness training and/or vocational counseling decreasing the alcohol use problem severity. This was an unexpected finding as previous literature on similar SUD treatment interventions had demonstrated positive outcomes for the decrease in alcohol use (e.g., Martinez et al., 2009). However, specific limitations to this study may have impacted the results. For example, the calculation of the alcohol use CS included self-report items (e.g., days troubled by use). As noted by van Ryn and Vinokur (1992), self-report measures can provide inaccurate data. However, similar findings for drug use issues were not revealed.

Hypothesis 4: As participants' SAIOP participation increases, the severity of their drug use issues will decrease. For this study, drug use problem severity was derived from the ASI CS calculation, and comprised of questions regarding the use of drugs (e.g., days of use by drug type, days troubled by use) within 30 days prior to completing the assessment (MaGahan et al., 1986).

Data analyses revealed support for hypothesis 4. Specifically, results demonstrated that participation in vocational counseling had a significant effect on drug use problem severity. Conversely, results did not reveal a significant effect for job readiness training. Thus, drug use problem severity was influenced more through consumers' participation in vocational counseling than job readiness training. These results are similar to those found in previous research. For example, Staines et al. (2004) explored the influence of a vocational counseling intervention (i.e. Customized Employment Services) on multiple outcome variables, in particular reduction of substance use for consumers receiving methadone maintenance treatment. Their study revealed

that consumers receiving more intensive vocational counseling services, as compared to a treatment as usual group, reported a greater decrease in the use of substances.

These findings are likely related to the session content within vocational counseling sessions versus job readiness training. For example, issues often associated with continued use and relapse of SUDs, such as high risk situations, cognitive risk factors, and lifestyle risk factors, were typically addressed during vocational counseling sessions (Marlatt & Gordon, 1985). Whereas job readiness training session content typically included assistance with employment related issues, such as job search assistance, resume development, and job interview training. Thus, evidence of an impact on drug use severity is more likely to be exhibited through vocational counseling services, as the results demonstrated. The contrast of findings for drug use issues versus alcohol use issues is perplexing and raises some implications for measurement in future research.

Hypothesis 5: As participants' SAIOP participation increases, the severity of their psychiatric issues will decrease. For this study, psychiatric problem severity was derived from the ASI CS calculation, and comprised of questions regarding psychiatric issues experienced (e.g., emotional, cognitive, behavioral disturbances) within 30 days prior to completing the assessment (MaGahan et al., 1986).

Results of data analyses did not support the hypothesis for increased participation in job readiness training and/or vocational counseling decreasing the psychiatric problem severity. This was an unexpected finding as previous literature on similar SUD treatment interventions demonstrated a reduction in psychiatric issues (e.g., Dennis et al., 2007). As previously mentioned, these may be a consequence of the limitations of the current study. Specifically, the use of the ASI psychiatric issues CS, a self-report measure, may limit the results. On the other

hand, these results may reflect an interaction between the reduction in drug use issues and the subsequent effect on psychiatric issues. Specifically, research has demonstrated the likely increase is psychological distress (e.g., depression, anxiety) immediately following the cessation from substances (Evans & Sullivan, 2001).

Summary of Research Questions and Hypotheses Results

For research question 1, results showed little effect of consumer demographics on the amount of participation. The only demographic factor that yielded a significant result was the highest level of education, where a difference was found between consumers with no high school degree and those with a high school degree or GED. Data analyses revealed mixed results for the effect of SAIOP participation on work and well-being outcomes. Specifically, results demonstrated that longer participation in job readiness training and vocational counseling services increased the likelihood of consumers being employed at the 120-day follow-up period. Further, results demonstrated a significant association only between the length of participation and the reduction in drug use problem severity. No significant associations were found for participation and employment, alcohol use, or psychiatric issue problem severity. Despite the findings of this current study, the interpretation of these results must be made within the context of the study's limitations.

Study Limitations

According to Neuman (2006), each study has both strengths and limitations, which impact the quality of the results. The limitations associated with the current study, as related to research design, sampling, and instrumentation, and how they impact the interpretation of results are outlined in this section.

Research Design

The current study utilized a quasi-experimental, one group pretest-posttest design. Due to the varying manifestation of SUDs, a quasi-experimental design was used to ensure findings would have greater generalizability. Further, because there was no control group available, the utilization of a one-group design was the most feasible option. Given the field study nature of this study, the benefits and flexibility of a quasi-experimental design (Cresswell, 2009; Heppner et al., 2008) helped outweigh the weakness of not using a randomized, experimental design. However, the use of a quasi-experimental design limited the control over threats to internal validity, thereby weakening any causal inferences. Specifically, selection may have been a threat to internal validity for this study. Participants chose to enroll in PWR services, thus levels of motivation to seek employment, for example, may have been higher than the general population of persons with SUDs. History may have also been a threat to internal validity. Participants potentially had different employment related events occur (e.g. offered or denied employment) during the time he or she received services at PWR. Such external events may have affected the impact of PWR services. Also, this study utilized a non-fixed intervention protocol, where participants received various hours of vocational counseling and job readiness training based upon their individualized treatment plan. The lack of a fixed protocol limits the ability for future study replication.

Sampling

Participant selection for this study utilized a selective sampling method, where participants were deliberately chosen based on relevant characteristics (Heppner et al., 2008). Specifically, participants were those consumers enrolled in PWR services that completed the baseline and 120-day follow-up evaluations. The use of this sampling method yielded a relatively

small sample size, as compared to similar previous studies (e.g., Dennis et al., 2007; Martinez et al., 2009; Staines et al., 2004). The small sample size in this study was, in part, due to a 57% attrition rate. Attrition is common within SUD treatment evaluation (Brown, Seraganian, Tremblay, & Annis, 2002), though may have limited the ability to detect intervention impact via participants' CS differences. For example, participants who remained in treatment may be different than those who dropped out, thus leading to potential bias in results. In an attempt to retain participants in treatment, PWR offered incentives (i.e., methadone vouchers, McDonald's gift cards, GREAT bus passes) for both completing hours of service and completing the 120-day follow-up evaluation. Despite these efforts, this sampling method yielded a small sample size for this study.

The lack of ethnic diversity within the sample selection was also a limitation. Specifically, the two ethnic groups represented were African-American and Caucasian. According to the SAMHSA (2006) data report, consumers reporting Caucasian and African-American ethnicity comprised the majority of consumers receiving treatment for SUDs (59.4% and 21.3% respectively). However, consumers reporting Hispanic/Latino (14.0%) and Native American Indian or Asian (5.3%) ethnicity represented roughly 20% of consumers receiving treatment. The results of this study revealed no significant difference in SAIOP participation between consumers reporting African-American and Caucasian ethnicity. The inclusion of consumers from other ethnic groups may have demonstrated a difference in participation in terms of ethnicity, which has been reported in previous studies (Caetano, 2003; Morgenstern & Bux, 2003). Therefore, caution must be taken when generalizing the results of this study.

Instrumentation

This study utilized data obtained from a demographic and contact information form, as well as the 40-item PWR evaluation survey. Sample demographics collected included gender, ethnicity, highest level of education, and age. The PWR evaluation survey was comprised of the domain specific items within the ASI that comprise the CS calculations, with an additional question regarding current employment status that is not included in CS calculation.

The demographic data provided a good description of the sample. However, previous research has demonstrated demographic factors not included in this study to be important factors related to the treatment of SUDs. Specifically, demographic factors such as current living situation and marital status have been found to influence treatment outcomes (Kaplan, 2008; Laudet & White, 2010). Inclusion of these factors in the data analyses may have provided a better understanding of the effect of demographic factors on the impact of SAIOP participation on work and well-being outcomes.

Regarding the measure used to determine scores for the problem severity variables, the use of the ASI CSs has many benefits, including a strong research history, standardized instrumentation, and ease of administration. However, the use of only CSs for defining problem severity has limitations. Specifically, the PWR evaluation survey, from which the CSs are comprised, was a self-report measure. As noted by van Ryn and Vinokur (1992), self-report measures are subject to participant bias, which may not represent accurate information. Thus, the lack of behavioral observation or verifiable measures (i.e., urine analysis, verified employment) for the current study limits the interpretation of the results.

Further, the specific items comprising the ASI CSs may have been insufficient to capture the true barriers to employment. For the employment issues CS, items related to transportation

(i.e., valid driver's license, automobile available) are included in determining the CS. Consumers with access to public transportation for employment purposes may not seek to obtain a driver's license or personal automobile due to the lack of necessity. Therefore, the improvement in employment issue CS would not be accurately determined. The alcohol and drug use CSs were comprised of items related to recent use of particular substances within the past 30 days. In terms of employment, a barrier to obtaining and/or maintain a job is passing a urine analysis screening. Typically, urine analysis screenings test for the presence of illicit drugs (e.g., marijuana, cocaine, opiates, amphetamines) and not for alcohol. Therefore, participation in job readiness training and vocational counseling in order to obtain and/or maintain employment may be more attractive to those engaged in the use of illicit drugs rather than the use of alcohol. This may help explain why participation in PWR SAIOP was associated with significant decreases in drug use CS and not associated with significant decreases in alcohol use CS. The psychiatric issues CS was comprised of items related to experience of serious psychological distress (e.g., depression, anxiety, anger outbursts). A limitation to the report of such experiences was that the information was collected as either 'yes' or 'no'. Therefore, a consumer who experienced depression, for example, may have reported 'yes'; however, the level of distress may not be to the point of impacting his or her ability to obtain and/or maintain employment. Overall, while ASI CSs were deemed appropriate to assessing well-being outcomes, other measurement tools could provide more thorough assessment of problem severity items more closely related employment barriers.

Implications of the Study

The results of the current study have implications for rehabilitation administrators and counselors. This section provides an overview of these implications.

Implications for Rehabilitation Administrators

The results of the current study provide some support for implementing innovative interventions, with a focus on a life-course perspective, into the treatment of SUDs. Traditional SUDs treatment has provided cursory attention to such a life-course approach, thus minimizing the overall effectiveness of standard interventions (Magura et al., 2004). The findings of this study demonstrate the potential effectiveness of integrating vocational counseling within traditional SUDs treatment, providing a more holistic approach to assessment and service delivery. Specifically, the longer participants participated in the vocational counseling based SAIOP, the more likely they were to be employed and to report a reduction in drug use severity at 120-day follow-up evaluation period. These findings are of importance for rehabilitation counseling administrators as they implement treatment models and protocols.

Rehabilitation administrators often face the challenge of developing a system of services that are both evidenced-based and practical (McLellan et al., 2006). Interventions found effective through rigorous research studies are often difficult to implement into treatment systems due to programmatic-level barriers. Arella et al. (1990) noted that the primary barriers rehabilitation administrators face include skill deficits related to innovative interventions of staff, adequate supervision and monitoring of intervention implementation, and fiscal issues. Therefore, the challenge to integrating innovative interventions, such as vocational counseling, within traditional SUDs treatment includes both the support of administrators and the skill enhancement of rehabilitation counselors.

To address the challenge to integrating innovative interventions, such as vocational counseling, licensing and credentialing boards could move towards requiring hours of practice and study within specific domains. For example, in North Carolina the substance abuse licensing

and credentialing board currently requires a set number of educational hours in HIV and ethics related domains. Adding other domains (e.g., vocational counseling) found to be effective and integral to the treatment of SUDs, could help increase the knowledge and skill level of staff. Thus, decreasing the barrier that rehabilitation administrators would face to the integration and implementation of innovative interventions into the treatment of SUDs.

Implications for Rehabilitation Counselors

In order for the integration of innovative, holistic interventions into the treatment of SUDs to be effective, rehabilitation counselors must have the necessary knowledge and skills. The results of this study suggest that integrating job readiness and vocational counseling services into traditional SUDs treatment may be effective for improving treatment outcomes. Therefore, rehabilitation counselors, working within traditional SUDs treatment agencies, need to ensure their professional development activities include vocational counseling skill enhancement. As traditional treatment of SUDs has maintained the narrow focus of providing services primarily for substance related issues (Staines et al., 2004), skills related to vocational related services may be seen to have less importance. However, in order to assess and treat consumers successfully from a holistic, life-course approach, rehabilitation counselors will need to develop the skill necessary to provide such interventions once seen as ancillary (i.e., vocational counseling). Further research is needed to explore both effective, holistic interventions for the treatment of SUDs, as well as effective means of integration for such interventions.

Recommendations for Future Research

The research implications of the current study include both specific and general recommendations. Specifically, recommendations related to intervention development within the context of various demographic factors are explored. Further, recommendations are made

regarding the improvement of research design and measurement of well-being the better to capture an effect of vocational counseling within the treatment of SUDs. Lastly, general research recommendations are made on how to advance the SUDs treatment literature through the further study of holistic, life-course approach treatment delivery methods.

The aim of the current study was to explore the impact of an innovative intervention on work and well-being outcomes. Thus, the examination of demographic factors was limited to exploring differences in outcome among participants. However, in the context of employment, there are a number of factors that may affect outcomes. Particularly, hiring biases related to gender, race, and/or level of education are likely to affect one's ability to obtain employment. Therefore, consumers could have high levels of participation in job readiness training and vocational counseling, though due to external factors may not obtain employment. A recommendation for future research is to explore adjustments to interventions that account for demographic differences in relation to workforce biases.

Given the field nature of this study, a quasi-experimental pretest-posttest design was most feasible. A primary disadvantage to this design was the lack of a comparison group to capture better the impact of the intervention. To discern a more thorough understanding of the impact of a vocational counseling based SAIOP, future studies can include a treatment-as-usual comparison group. Further, the measurement of well-being outcomes can also be improved. As discussed in the limitations section, the use of a self-report measure limits the interpretation of the results. For example, future studies can include behavioral observations and objective data (e.g., verification of employment, urine screens) to support self-report data. Also, complementing the ASI CSs with other tools that assess the same domains (i.e., employment issues, alcohol use, drug use, psychiatric issues) will improve the measurement of well-being

outcomes. Beyond these specific recommendations for future research, the results of this study also yielded general recommendations for the development of SUDs treatment models.

The current study found that length of participation in a vocational counseling based SAIOP was associated with increased employment outcomes, as well as decreased drug use problem severity. These findings support the integration of holistic, life-course approaches within the treatment of SUDs to impact work and well-being outcomes. However, this study focused primarily on employment as a key factor towards improving outcomes in SUDs treatment. Further research is needed to assess the importance of other potential factors (e.g., living situation, family or systems issues, economic climate, employment rate) that may play a role in improving outcomes and assists with the integration of a life-course approach.

The need to shift from a one-size-fits-all model of treatment for SUDs towards a life-course approach that addresses the multi-faceted problems related to SUDs has been well documented (for review see Miller & Carroll, 2006). Thus, further research is needed to explore how to integrate innovative techniques effectively. Previous literature on organizational change often refers to the challenges involved with integrating innovative approaches. For example, Lehman, Greener, and Simpson (2002) note four factors to assess an organization's readiness to change, including motivational readiness, institutional resources, staff attributes, and organizational climate. Therefore, there is a need to examine not only the effectiveness of innovative interventions for individuals with SUDs, but also how to integrate such approaches into the current SUDs treatment system.

Conclusion

Substance Use Disorders, seen as a chronic disability (Dennis et al., 2007; Kaplan, 2008), are associated with staggering economic costs (USDHSS, 2008) and decreases in persons'

overall well-being (Moos & Moos, 2007). While traditional treatment of SUDs has demonstrated efficacy in treating substance related issues, cursory attention has been placed on the holistic, life-course needs of persons with SUDs (Magura et al., 2004). Review of current trends in SUD treatment demonstrates a need for the integration of a more holistic, life course approach. Given the relationship of employment and successful recovery from SUDs, integrating vocational counseling services into traditional SUD treatment programs is a step towards this more holistic approach.

In terms of life course approach, work can be seen as a turning point for consumers; altering the SUD trajectory towards recovery and enhancing recovery capital. Innovative approaches, such as integrating vocational counseling, have the capacity to bridge the gap between a traditionally narrow treatment approach and the implementation of a more life course approach, thereby improving the treatment outcomes of persons with SUDs. The results of this study provide some support for the re-conceptualization of SUD treatment.

Results of the current study demonstrated that participation in an integrated SUD treatment approach yielded improvement in work and well-being outcomes. In particular, the results demonstrated a positive association between the amount of participation and outcomes related to employment and drug use severity. The impact of these results is related to the importance of employment, especially for consumers with SUDs. For example, work is associated with better health and well-being among individuals with mental health and SUDs (Leufstadius et al., 2009). Thus, interventions shown effective for improving employment outcomes have the potential to extend to overall well-being factors. This is important for rehabilitation administrators responsible for developing and updating treatment programs. Specifically, programmatic changes are needed that involve the inclusion of more holistic

treatment approaches. Further research is needed to explore the impact of and challenges to integrating holistic approaches into traditional SUD treatment. In particular, further research is needed to address the research-to-treatment gap that exists within current treatment of SUDs (McLellan, 2006).

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APPENDIX A: GENERAL CONSENT AND HIPAA DOCUMENT

Unique Identifier: Toriello PWR Evaluation

Title of Research Study: Project Working Recovery (PWR))
Principal Investigator: Paul J. Toriello, RhD
Institution: East Carolina University

INTRODUCTION

You have been asked to participate in a research study being conducted by Paul J. Toriello with East Carolina University. The purpose of this study is to evaluate the impact of employment and employment related issues on your treatment and recovery from substance abuse. As a participant in Project Working Recovery (PWR) you will have the following opportunities.

- (a) Complete surveys that measure issues surrounding your substance abuse. These issues include employment, medical, legal, psychological, and motivation.
- (b) *If you are unemployed*, you can participate in a 30-hour employment counseling intervention intended to help you find and keep a job, as well as support your recovery.

PLAN AND PROCEDURES

If you are NOT eligible for the employment counseling:

1. If you choose to participate you will first complete the above surveys.
2. After about 120 days, you will be contacted to complete the surveys again, over the phone or by mail.
3. Finally, after another 90-days, you will be contacted to complete the surveys one last time, again over the phone, or by mail.

If you are eligible for the employment counseling:

1. If you choose to participate you will first complete the above surveys.
2. You will then attend 3 counseling sessions per week for about five weeks at the PWR Clinic located in ECU's Department of Rehabilitation Studies (DRS). The purpose of the counseling sessions will be to help you with job searching, job interviewing, as well as keeping a job during your recovery. With your consent, these counseling sessions will be observed live, via a camera, from a hidden observation room as well as videotaped. The observation and video tapes will only be of the case manager: *your face will not be on camera or recorded*. The observations and video recordings will be strictly used for supervision and evaluation of the PWR case managers.
3. After about 30 days, you will be contacted to complete the surveys again in person at the PWR clinic, over the phone, or by mail.
4. After an additional 90-days, you will be contacted to complete the surveys again in person at the PWR clinic, over the phone, or by mail.
5. Finally, after another 90-days, you will be contacted to complete the surveys one last time, again in person at the PWR clinic, over the phone, or by mail.

POTENTIAL RISKS AND DISCOMFORTS

Risks to study participants include unanticipated emotional reactions from completing the surveys and/or counseling sessions. You may terminate the surveys and/or counseling session at any time.

POTENTIAL BENEFITS

By participating in PWR, our goal is to understand how employment impacts your recovery from substance abuse, as well as increase your employment functioning.

SUBJECT PRIVACY AND CONFIDENTIALITY OF RECORDS

To protect your confidentiality, you will be assigned a five digit project number; this will allow us to track all surveys you have completed. All project data will be secured in a locked filing cabinet or secured computers within the DRS. **Please note there are limitations to the protection of your confidentiality. Specifically, PWR staff will be required to contact the local authorities if they believe you are a imminent threat to hurting yourself and/or another individual. Also, local authorities will be contacted if PWR staff suspect there is child abuse occurring within your home.**

COSTS OF PARTICIPATION

Version 080510 General

Unique Identifier: Toriello PWR Evaluation
There is no cost to participate in this project.

COMPENSATION

You are eligible for incentives when you participate in PWR activities. Specifically, when you participate in PWR activities you will receive incentives in the form of McDonald's gift cards and/or Greenville Area bus passes.

Please note that one incentive, whether it is a McDonald's gift card, or bus pass has a \$6 value.

If you are NOT eligible for the employment counseling you will receive:

- Two incentives when you complete the initial baseline survey; and
- Two incentives each time you complete follow-up surveys.

If you are eligible for the employment counseling you will receive:

- Two incentives when you complete the initial baseline survey;
- Two incentives each time you complete follow-up surveys;
- Two incentives when you attend your intake session at the PWR clinic;
- Two incentives for every three hours of services completed at the PWR clinic (maximum of 9 hours per week).

COMPENSATION FOR INJURY

The policy of East Carolina University and/or Pitt County Memorial Hospital does not provide payment or medical care for research participants because of physical or other injury that result from this research study. Every effort will be made to make the facilities of the School of Medicine and Pitt County Memorial Hospital available for care in the event of injury. You do not give up any legal rights as a research participant by signing this consent form.

VOLUNTARY PARTICIPATION

Participating in this study is voluntary. If you decide not to be in this study after it has already started, you may stop at any time without losing benefits that you should normally receive. You may stop at any time you choose without penalty or without causing a problem with your receipt of the incentives for completing the surveys.

PERSONS TO CONTACT WITH QUESTIONS

The investigators will be available to answer any questions concerning this research, now or in the future. You may contact the principal investigator; Paul J. Toriello at phone numbers 252-744-6297 (days) or 252-561-5703 (nights and weekends). If you have questions about your rights as a research subject, you may call the Chair of the University and Medical Center Institutional Review Board at phone number 252-744-2914 (days).

CONSENT TO PARTICIPATE

Version 080510 General

Unique Identifier: Toriello PWR Evaluation

Title of research study: Project Working Recovery (PWR)

I have read all of the above information, asked questions and have received satisfactory answers in areas I did not understand. (A copy of this signed and dated consent form will be given to the person signing this form as the participant or as the participant authorized representative.)

Please indicate which parts of the study you are willing to participate in by checking "yes" next to those parts and check "no" next to the parts you are not willing to participate in. Please check N/A for those parts for which you are not eligible. Please note that you can still withdrawal from any part of the study at any time, regardless of your response below.

- | | | | |
|--|--------|-------|--------|
| a) Survey Completion | Yes___ | No___ | |
| b) Employment Counseling Sessions at DRS | Yes___ | No___ | N/A___ |
| c) Employment Counseling Session Observation & Recording | Yes___ | No___ | N/A___ |

Participant's Name (PRINT)	Signature	Date	Time
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If applicable:

Guardian's Name (PRINT)	Signature	Date	Time
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PERSON ADMINISTERING CONSENT: I have conducted the consent process and orally reviewed the contents of the consent document. I believe the participant understands the research.

Person Obtaining consent (PRINT)	Signature	Date
----------------------------------	-----------	------

Principal Investigator's (PRINT)	Signature	Date
----------------------------------	-----------	------

APPENDIX B: PROJECT WORKING RECOVERY (PWR)

CONTACT INFORMATION FORM

Participant Name: Last _____ MI ____ First _____

PWR ID#: _____

Participant Contact Information:

Primary Mailing Address:

Secondary Mailing Address: _____

Home Phone #: (_____) _____ Best times to call: _____ am/pm

Cell Phone #: (_____) _____ Best times to call: _____ am/pm

Work phone #:(_____) _____ Best times to call: _____ am/pm

Demographics

Gender _____ male _____ female **Your Date of Birth** _/_/_/____ **Your present age in years.** _____

Self-Description (mark one)

- _____ White American/European American
- _____ African American
- _____ Asian American/Pacific Islander
- _____ Hispanic
- _____ Native American
- _____ Other (please specify) _____

What is the highest level of school you completed?
Status?

- _____ Elementary School
- _____ Middle School
- _____ High School/GED
- _____ Associate's Degree
- _____ Bachelor's Degree
- _____ Graduate Degree

What is your current Marital

- _____ Single
- _____ Divorced
- _____ Married
- _____ Widowed
- _____ Never Married
- _____ None

Other Contact Numbers:

List people who might know how to reach the client if they should move (parents, siblings, other relatives, friends, co-workers, etc).

(A). Name: _____ Relationship To

Participant: _____
 First Last Initial

Phone: (____) _____ Best times to call: _____ am/pm

(B). Name: _____ Relationship To

Participant: _____
 First Last Initial

Phone: (____) _____ Best times to call: _____ am/pm

©. Name: _____ Relationship To

Participant: _____
 First Last Initial

Phone: (____) _____ Best times to call: _____ am/pm

Key Dates:

Date of Baseline: _____

Date of Intake (if applicable): _____

APPENDIX C: PROJECT WORKING RECOVERY (PWR) EVALUATION SURVEY

PWR ID#: _____ Date: _____ Team Member: _____

*****Reminder: If follow-up, please complete contact log for evaluation*****

Survey Point (circle one): Baseline 30-day 120-day 240-day

Employment status (choose one): Full-Time Part-Time (30 hours/week or less)
Unemployed

If working: Name of Employer _____
Job Title _____ DOT Code: _____

1. Do you have a valid driver's license? (circle one) YES NO

2. Do you have an automobile available for your use? YES NO

3. How many days were you paid for working in the past 30? _____ days

4. How much did you receive from employment (new income) in the past 30 days?
\$_____

Note: This is a total amount for the past 30-days.

5. How many days in the past 30 did you use any alcohol at all? _____ days

6. How many days in the past 30 did you use alcohol to the point of feeling a "buzz"? _____ days

7. How many days in the past 30 have you been troubled or bothered by any alcohol problems?
_____ days

8. How troubled or bothered have you been in the past 30 days by these alcohol problems?
(circle one)

0-Not at all 1-Slightly 2-Moderately 3-Considerably 4-Extremely

9. How important to you now is treatment for these problems?

0-Not at all 1-Slightly 2-Moderately 3-Considerably 4-Extremely

10. How much would you say you spent during the past 30 days on alcohol? \$_____

11. How many days in the past 30 did you use Heroin? _____ days

12. How many days in the past 30 did you use Methadone? _____ days

13. How many days in the past 30 did you use other opiate? ____ days
14. How many days in the past 30 did you use Barbiturates? ____ days
15. How many days in the past 30 did you use other sedatives/hypnotics? ____ days
16. How many days in the past 30 did you use Cocaine? ____ days
17. How many days in the past 30 did you use Amphetamines? ____ days
18. How many days in the past 30 did you use Marijuana? ____ days
19. How many days in the past 30 did you use Hallucinogens? ____ days
20. How many days in the past 30 did you use more than one drug? ____ days
21. How many days in the past 30 did/ have you experienced problems with drug use? ____ days
22. How troubled or bothered have you been in the past 30 days by these drug problems? (circle one)
- 0-Not at all 1-Slightly 2-Moderately 3-Considerably 4-Extremely
23. How important to you now is treatment for these problems?
- 0-Not at all 1-Slightly 2-Moderately 3-Considerably 4-Extremely
24. Are you satisfied with your current marital situation? (circle one) Yes No
- Indifferent
25. How many days in the past 30 have you had serious conflicts with your family? ____ days
26. How troubled or bothered have you been in the past 30 days by family problems? (circle one)
- 0-Not at all 1-Slightly 2-Moderately 3-Considerably 4-Extremely
27. How important to you now is treatment for these problems?
- 0-Not at all 1-Slightly 2-Moderately 3-Considerably 4-Extremely

28. Have you had significant periods when you have experienced serious problems in the past 30 days with your (answer all):

Mother	Yes	No
Father	Yes	No
Brothers/Sisters	Yes	No
Sexual partner/spouse	Yes	No
Children	Yes	No
Other significant family	Yes	No
Close Friends	Yes	No
Neighbors	Yes	No
Co-Workers	Yes	No

29. How many days have you experienced medical problems in the last 30? ____ days

30. How troubled or bothered have you been by these medical problems in the past 30 days?

0-Not at all 1-Slightly 2-Moderately 3-Considerably 4-Extremely

31. How important to you now is treatment for these medical problems?

0-Not at all 1-Slightly 2-Moderately 3-Considerably 4-Extremely

32. Are you presently awaiting charges, trial, or sentencing? YES NO

33. How many days in the past 30 have you engaged in illegal activity for profit? ____ days

34. How serious do you feel your present legal problems are?

0-Not at all 1-Slightly 2-Moderately 3-Considerably 4-Extremely

35. How important to you now is counseling or referral for these legal problems?

0-Not at all 1-Slightly 2-Moderately 3-Considerably 4-Extremely

36. How much money did you receive from illegal sources in the past 30 days? \$____.____

37. Have you had significant periods when you have experienced serious problems in the past 30 days with (answer all):

Experienced serious depression?	Yes	No
Experienced serious anxiety or tension?	Yes	No

Experienced hallucinations?	Yes	No
Experienced trouble understanding, concentrating or remembering?	Yes	No
Experienced trouble controlling violent behavior?	Yes	No
Experienced serious thoughts of suicide?	Yes	No
Attempted suicide?	Yes	No
Have you taken prescribed medication for any psychological / emotional problem?	Yes	No

38. How many days in the past 30 have you experienced these psychological or emotional problems? ____ days

39. How much have you been bothered by these psychological or emotional problems in the past 30 days?

0-Not at all 1-Slightly 2-Moderately 3-Considerably 4-Extremely

40. How important to you now is treatment for these psychological problems?

0-Not at all 1-Slightly 2-Moderately 3-Considerably 4-Extremely

APPENDIX D: PROJECT WORKING RECOVERY (PWR) MENU OF SERVICES

**Key: Motivational Interviewing (MI)
Community Reinforcement Approach (CRA)
Cognitive Behavioral Therapy (CBT)**

Life Dimension	Problem	Services	Intervention Model(s)	Intervention Tasks
1. Acute Intoxication and/or Withdrawal	1. Consumer has withdrawal issues that interfere with treatment or recovery.	1A. Psychiatric. 1B. Crisis contingency planning.	1A. Consult w/Psychiatrist.	1A. Schedule/complete consults as needed.
			1B. PCP crisis plan.	1B. Review/revise crisis plan with consumer PRN.
2. Biomedical Conditions and Complications	1. Consumer has biomedical issues that interfere with treatment or recovery.	1A. Disease management. 1B. Crisis contingency planning. 1C. Individual counseling. 1D. Relapse prevention.	1A1. Case management.	1A1. Refer to needed biomedical care.
				1A1. Follow-up on referrals and services.
				1A1. Revise PCP with consumer for biomedical needs.
			1A2. CRA-job readiness.	1A2. Evaluate biomedical barriers to work (e.g., functional skills assessment, dexterity tests, work samples).
				1A2. Process evaluation results with consumer.
			1B. PCP crisis plan.	1B. Review/revise crisis plan with consumer PRN.
			1C. Motivational Interviewing.	1C. Increase motivation for biomedical services.
			1D. CRA-relapse prevention.	1D. Identify/discuss biomedical issues as relapse trigger.
	1D. Practice relapse prevention skills for biomedical triggers.			

Life Dimension	Problem	Services	Intervention Model(s)	Intervention Tasks
3. Emotional-Behavioral-Cognitive (EBC) Conditions/Complications	1. Consumer has diagnosed EBC issues that interfere with treatment or recovery. This includes mild risk of behaviors endangering self, others, or property.	1A. Diagnostic/Assessment	1A. D/A team.	1A. Complete D/A with team.
		1B. Psychiatric	1B. Consult w/Psychiatrist.	1B. Schedule/complete consults as needed.
		1C. Crisis contingency planning.	1C1. PCP crisis plan.	1C. Review/revise crisis plan with consumer PRN.
		1D. Individual counseling.	1C2. Safety plan.	1C2. Implement safety plan and monitoring per PWR policy.
		1E. Life skills.	1D1. Motivational Interviewing.	1D1. Increase motivation for addressing EBC issues.
		1F. Family counseling.	1D2. CBT.	1D2. Schedule/complete CBT sessions with LPC.
		1G. Group support.	1E. CRA-skills training.	1E. Develop/practice coping skills for EBC issues.
				1E. Practice identifying feelings.
				1E. Practice anger management skills.
				1E. Practice expressing feelings.
				1E. Practice coping with worry.
				1E. Practice coping with fears.
				1E. Practice coping with sadness.
		1E. Increase self-esteem		
		1F. CRA-relationship counseling.	1F. Schedule/complete counseling with significant others facilitated by LPC.	
1G. Peer support.	1G. Participate in process groups on coping with mental illness.			

				Topics can focus on specific dx, bx, emotion, coping strategy, and/or tx issues.
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Life Dimension	Problem	Services	Intervention Model(s)	Intervention Tasks
4. Readiness to Change	1. Consumer is reluctant to agree to treatment and is ambivalent about change, or the consumer is inconsistent in treatment follow-through, or the consumer has limited awareness of or commitment to change.	1A. Individual counseling. 1B. Group counseling. 1C. Family support.	1A. Motivational interviewing.	1A. Increase motivation for treatment/change. 1A. Complete/process values card sort.
			1B. Peer support.	1B. Participate in process groups on barriers and facilitators to change. 1B. Participate in process groups on values clarification.
			1C. CRA-relationship counseling.	1C. Schedule/complete counseling with significant others facilitated by LPC.
Life Dimension	Problem	Services	Intervention Model(s)	Intervention Tasks
5. Relapse, Continued Use or Continued Problem Potential	1. Consumer has a high potential for relapse/continued use. 2. Consumer has high potential for continued problems. 3. Consumer's current legal situation will distract from treatment and recovery.	1A. Relapse prevention. 1B. Family training. 2A. Life skills-stress management. 2B. Life skills-money management. 2C. Life skills- work management.	1A1. CRA-functional analysis of substance use and pro-social behavior.	1A.1 Develop/process a framework in which the consumer substance use occurs. Mapping the external (persons, places, things) and internal (thoughts, feelings) antecedents typically associated with substance use.
				1A1. Revise functional analysis as needed.
				1A1. Develop/process functional analyses of pro-social behavior
				1A1. Develop/process family genograms of substance use.
				1A1. Learn physical effects of substance use.

		3A. Individual counseling. 3B Case management.	1A2. CRA- skills training	1A2. View/process WIO “avoiding users” (JK1)
				1A2. View/process WIO “triggers” (RP1)
				1A2. Learn what a relapse is.
				1A2. Learn/identify relapse clues.
				1A2. Practice skills for coping with triggers.
				1A2. Practice coping with social pressures skills
				1A2. Practice coping with family that use.
				1A2. Practice coping with causes of relapse.
				1A2. Practice what to do if relapse occurs.
				1A2. Learn/practice refusal skills.
				1A2. Practice coping with success.
				1A2. Practice skills for staying away from substances.
		1A2. Learn the power of choice.		
		1B. CRA- relationship counseling.	1B. Train significant others to reinforce recovery. Facilitated by LPC.	
		2A. CRA- skills training	2A. Practice coping skills/relaxation training.	
			2A. View/process WIO “emotion mgmt” (JK5)	
2A. View/process WIO “crisis mgmt” (JK3)				
2B. CRA- skills training	2B. Complete budget development/mgmt training.			
	2B. View/process WIO “money mgmt”			

			(JK4)
		2C. CRA- skills training	2C. View/process WIO “work mgmt” (JK6)
			2C. View/process WIO “burnout/stress” (JK7)
		3A. Motivational Interviewing.	3A. Increase motivation for addressing legal issues.
		3B. Case management	3B. Conduct criminal background search.
			3B. Refer to needed legal services.
			3B. Follow-up on referrals and services.
			3B. Revise PCP with consumer for legal needs.

Life Dimension	Problem	Services	Intervention Model(s)	Intervention Tasks	
6. Recovery Environment	1. Consumer's current work situation will render recovery unlikely. The consumer lacks the necessary job resources/skills to maintain an adequate level of functioning.	1A. Individual counseling.	1A1. Motivational Interviewing.	1A1. Increase motivation for choosing, getting, and/or keeping a job.	
		1B. Group counseling.	1A2. CRA- job choosing.	1A2. Evaluate/process consumer's work values.	
		1C. Life skills		1A2. Evaluate/process consumer's work interests.	
		1D. Case management.		1A2. Evaluate/process consumer's work aptitudes.	
				1A2. Complete/process transferable skills analysis.	
				1A2. Complete/process an occupational aptitude profile.	
				1A2. View/process WIO "job that fits" (JC7)	
				1A2. Process WIO "job sampler" worksheet (JC8) (No Video)	
				1A2. Complete/process work samples.	
				1A3. CRA- job getting.	1A3. Complete vocational counseling on resumes and work gaps.
					1A3. Complete vocational counseling on application issues.
					1A3. Practice interviewing via role-plays.
					1A3. Process WIO "good for recovery" worksheet (JG5) (No Video)
				1B1. CRA- job choosing.	1B1. Identify/discuss job values.
				1B2. CRA- job getting.	1B1. Learn to overcome barriers to work.
			1B2. View/process WIO "resume bldg" (JG3)		

			1B2. Learn/practice ways to find a job.	1B2. View/process WIO “interviewing” (JG4)	
				1C1. CRA- job choosing.	1C1. Explore/discuss jobs on DOT, O*NET, OOH.
					1C1. Research job credential/legal requirements.
					1C1. Identify/process job accommodations and safety issues.
					1C1. Complete/process labor market survey.
				1C2. CRA- job getting.	1C2. Explore types of resumes.
			1C2. Draft resume/or cover letters.		
			1C2. Practicing & making cold-calls..		
			1D. Case management.	1C2. Practicing completing applications.	
				1D. Refer to needed employment services (e.g., job fairs, training programs, VR, etc.).	
				1D. Follow-up on referrals and services.	
			1D. Revise PCP with consumer for employment needs.		

Life Dimension	Problem	Services	Intervention Model(s)	Intervention Tasks	
6. Recovery Environment (continued)	2. Consumer’s current living situation will render recovery unlikely. The consumer lacks the necessary job resources to maintain	2A. Individual counseling.	2A. Motivational Interviewing.	2A. Increase motivation for addressing housing issues.	
			2B. Case management.	2B. Case management.	2B. Refer to needed housing services.
		3A. Individual counseling.			2B. Follow-up on referrals and services.

<p>a living environment supportive of recovery.</p> <p>3. Consumer lacks social network, or has inappropriate social contacts that jeopardize recovery, or has few friends or peers who do not use substances.</p>	<p>3B. Group counseling.</p> <p>3C. Case management.</p>		housing services and needs.
		3A1. Motivational interviewing.	3A. Increase motivation for addressing social issues.
		3A2. CRA-relationship counseling.	3A2. Schedule/complete counseling with significant others facilitated by LPC.
		3B. CRA- social/recreational counseling	3B. Practice coping with family issues.
			3B. Practice social skills- decision making.
			3B. Practice social skills- non-verbal communication.
			3B. Practice social skills- problem solving.
			3B. Practice social skills- taking responsibility.
			3B. Learn social skills- boundaries.
			3B. Complete leisure skills training.
			3B. Learn/practice to have fun in recovery.
		3C. Case management.	3C. Refer to needed social supports (e.g., self-help, faith-based, social services, etc).
			3C. Follow-up on referrals and services.
			3C. Revise PCP with consumer for social supports and needs.

APPENDIX E: INSTITUTIONAL REVIEW BOARD APPROVAL LETTER



EAST CAROLINA UNIVERSITY

University & Medical Center Institutional Review Board Office
11-09 Bldg Medical Sciences Building • 601 Mayo Boulevard • Greensburg, NC 27834
Office 252-744-2914 • Fax 252-744-2284 • www.ecu.edu/irb

TO: Paul Tortello, PhD, Department of Rehabilitation Studies, ECU

FROM: UMCIRB *STC*

DATE: August 16, 2010

RE: Expedited Continuing Review of a Research Study

TITLE: "Project Working Recovery (PWR)"

UMCIRB #07-0455

The above referenced research study was initially reviewed and approved by expedited review on 7/24/07. This research study has undergone a subsequent continuing review using expedited review on 8/16/10. This research study is eligible for expedited review because it is research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies. (NOTE: Some research in this category may be exempt from the HHS regulations for the protection of human subjects, 45 CFR, 6.101(h)(2) and (h)(3). This listing refers only to research that is not exempt.) The Chairperson (or designee) deemed this KBR Charitable Trust sponsored study no more than minimal risk requiring a continuing review in 12 months. Changes to this approved research may not be initiated without UMCIRB review except when necessary to eliminate an apparent immediate hazard to the participant. All unanticipated problems involving risks to participants and others must be promptly reported to the UMCIRB. The investigator must submit a continuing review/closure application to the UMCIRB prior to the date of study expiration. The investigator must adhere to all reporting requirements for this study.

The above referenced research study has been given approval for the period of 8/16/10 to 8/15/11. The approval includes the following items:

- Continuing Review Form (dated 7/26/10)
- Protocol summary
- Informed consent: UMCIRB (dated 8/5/10)
- Informed consent: PORT (dated 8/5/10)
- Informed consent: WBJ (dated 8/5/10)
- Change questionnaire
- Addiction severity index

The Chairperson (or designee) does not have a conflict of interest on this study.

The UMCIRB applies 45 CFR 46, Subparts A-D, to all research reviewed by the UMCIRB regardless of the funding source. 21 CFR 312.50 and 21 CFR 312.56 are applied to all research studies under the Food and Drug Administration regulation. The UMCIRB follows applicable International Conference on Harmonisation Good Clinical Practice guidelines.