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**COMPETITIVE EMPLOYMENT OUTCOMES AMONG RACIAL AND ETHNIC
GROUPS WITH CRIMINAL HISTORIES & MENTAL IMPAIRMENT**

A Dissertation in

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by

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Abstract

This study investigated vocational rehabilitation (VR) outcomes among people with criminal histories with mental impairments who were served in a state-federal VR agency during fiscal year 2010 as extracted from the Rehabilitation Services Administration (RSA) 911 national database. Using hierarchical logistic analysis, this study examined predictors of successful competitive employment outcomes based on consumer demographic information and services received. Gender, age, and race/ethnicity, diagnosis and treatment, and job placement assistance were positive predictors of VR outcomes, while receiving job readiness assistance was found to be a negative predictor. Chi-square tests of independence revealed statistically significant differences between race/ethnicity and closure type, types of services, and unsuccessful closure reasons. Implications for rehabilitation counselors and future research are discussed.

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Chapter 1: Introduction

The United States currently has over 8 million citizens under correctional supervision in local, state, and federal institutions. The number of individuals in state institutions is rapidly approaching 3 million with sentences ranging from 12 months to life. Further statistics reveal the impact of the criminal justice system on mainstream America. For example, 1 in 31 adults in the United States is under correctional supervision. In contrast, the rate of African-American men incarcerated and under correctional supervision in the United States is 1 in 11 (National Conference of State Legislatures [NCSL], 2009). The economic commitment to incarcerations in the United States is \$60 to \$70 billion per year. The fiscal range to house an inmate in state correctional institutions is about \$27,000 to \$45,000 (Western, 2007). Recent studies on recidivism statistics in the United States place inmates released from prison, either by maxing out their sentence or on parole, at 67% (NCSL, 2009).

According to data collected by The Substance Abuse and Mental Health Services Administration (SAMHSA), nearly 45 million people aged 18 or older, which accounts for 20% of the adult population, have experienced a mental illness in the past year (National Survey on Drug Use and Health [NSDUH], 2012). According to the National Institute of Mental Health (NIMH, 2013), percentages of mental illness among various races and ethnicities in the United States are as follows: White 5%, Black 3%, Hispanic/Latino 4%, Asian 2%, American Indian/Alaska Native 4%, and Multi-race 6%. In addition, the lifetime prevalence statistics suggest that Non-Hispanic Blacks are 30% less likely than their Non-Hispanic White counterparts to experience a mental illness (NIMH, 2013). In similar lifetime prevalence statistics, men and women are equally as likely to experience a mental illness. Mental illness in the United States is a major public health concern, ranking as one of the

most prevalent disabilities (NSDUH, 2012).

On an annual basis, mental illness in the United States affects nearly a quarter of the population (NSDUH, 2012). A national trend over the past 50 years has been the closure of mental health facilities and the subsequent incarceration of people with mental illness (Masters, 2004). Correctional institutions have come to be known as the new asylums for people with mental illness. According to two surveys of inmates in state and federal correctional facilities and local jails, 56% of state prison inmates, 45% of federal prison inmates, and 64% of local jail inmates have mental illness (NIMH, 2013). An overwhelming number of the nation's incarcerated has a mental illness, and this trend is reflected in the number of applicants to state-federal vocational rehabilitation (VR) services. Nearly 85% of applicants for VR services originating from correctional facilities have some form of mental impairment, including mental illness. The RSA 911 codebook defines mental impairment as cognitive impairment, psychosocial impairment, and other mental impairments, not specified. The dual presence of mental impairment and a criminal history present unique barriers to competitive employment.

Statement of the Problem

The unemployment and underemployment of ex-offenders returning to communities from correctional institutions is rapidly becoming a national issue that can no longer be ignored in the United States. Approximately 650,000 inmates are released from state and federal prisons each year (Visher, Winterfield, & Coggeshall, 2005). Within the last decade, it has been reported that the unemployment rate of ex-offenders is approximately 33%, compared to roughly 8% in the general population (Petersilia, 2003). In a recent report on ex-offenders in the labor market, Schmitt and Warner (2010) found that the presence of a prison

record or felony conviction substantially reduces ex-offenders' opportunities in the labor market. In 2008, the number of ex-offenders of working age was approximately 12 to 14 million, which when factored into the national male employment rate for the same year, lowered the overall percentage by 1 to 2 points (Schmitt & Warner, 2010). The prospects for ex-offenders in the national job market are bleak, and continue to be an increasing concern for inmates being released from state and federal prisons and the professionals who work with them.

Unemployment and underemployment rates for people with disabilities in the United States continue to be a national concern despite years of legislative gains, disability rights advocacy, and increased national awareness (Markel & Barclay, 2009; Sambamoorthi, 2006; Silverstein, Julnes, & Nolan, 2005). The Office of Disability Employment Policy (ODEP) recently reported that as of July 2012, only 21% of people with disabilities are currently participating in the workforce compared with 70% of people without disabilities (ODEP, Department of Labor, 2012). National trends of wide gaps in participation in the U.S. labor force and unemployment rates for people with disabilities persist despite an increased national awareness of the unemployment and underemployment of people with disabilities. As previous data documents, people with disabilities typically experience greater barriers to employment and higher rates of unemployment than the general population (Lindsay, 2011). These national trends of unemployment and underemployment are especially pronounced when considering people with disabilities who also have criminal histories.

The combination of offender status and disability is a powerful impediment to competitive employment that provides a livable wage post incarceration. Additionally, the inclusion of racial/ethnic minority status to offender and disability statuses exponentially

increases the barriers to employment in the U.S. (Petersilia, 2003). The ability to accurately track disability numbers for men and women incarcerated in local, state, and federal correctional facilities has been a challenge for people working in the fields of criminology, sociology, and rehabilitation counseling (Russell & Stewart, 2001). While various researchers have attempted to conduct studies to track disability in correctional facilities (Harlow, 2003; Lamb, Weinberger, & Gross, 2004; LaVigne, Kane, & Visser, 2005; Mears, Aron, & Bernstein, 2003; Teplin, 1990), relatively few have been able to capture national statistics regarding people with disability in prisons and jails. One exception has been a national study aimed at understanding the prevalence and incidence rates of mental illness among people in state and federal prisons as well as local jails (James & Glaze, 2006). While mental impairments, including cognitive and psychosocial impairments are the focuses of this study, it is important to note the prevalence of other disabilities affecting people in correctional facilities. According to wide ranging research across many different academic disciplines, tracking exact numbers of incarcerated people in local, state, and national correctional facilities continues to be a challenge.

Purpose of Study

Considering the national employment trends for people with disabilities and ex-offenders, empirical research on the employment of ex-offenders with disabilities is almost non-existent in the vocational rehabilitation counseling literature (Whitfield, 2008). At the time of this study, Whitfield (2008) is the only person to conduct empirical research (i.e., descriptive study) on applicants for vocational rehabilitation services originating from correctional institutions utilizing the RSA 911 database. While this is an important first step towards understanding more about ex-offenders with disabilities in the state/federal VR

system, more rigorous research is needed to get a clearer sense of how to create best practices for this underserved population.

While access to state-federal VR agencies is open equally to the public, rates of eligibility, types of services provided, and becoming successfully rehabilitated are disproportionate for people of color. Over the past 15 years there has been a consistent body of literature indicating that a person's phenotype and ethnicity may play a significant role in the VR process and outcomes (Jackson & Wilson, 2001; Robinson & Klein, 2008; Rosenthal, 2004; Wilson, 2002, 2005; Wilson, Harley, & Alston, 2001; Wilson, Jackson, & Doughty, 1999; Wilson & Senices, 2005). The current study seeks to expand on this established empirical work by investigating the experiences of people with criminal histories and mental impairments who access services in state-federal VR agencies using the RSA 911 database.

Current Demographics of the United States

The United States Census Bureau reported a total population of 308.7 million in 2010, which is based on citizens and non-citizens counted at their residence, people temporarily away from their permanent U.S. residence, and people without a permanent residence (U.S. Census Bureau, 2010). In comparison to the 2000 U.S. Census Bureau statistics, this reflects a population growth of 9.7% (27.3 million). Differences in gender were noted at almost an even split with 50.9% identifying as female and 49.1% identifying as male in the 2010 U.S. Census Bureau statistics (Howden & Meyer, 2011). In contrast, the age structure of the U.S. population varies with 20.1% reported to be between the ages of 0-14 years, 66.8% between the ages of 15-64, and 13.1% ages 65 or older (U.S. Census Bureau, 2010).

Regarding the racial and ethnic composition of the U.S., the 2010 U.S. Census provides supporting evidence of an emerging population transformation with a 10% decline (from 75% to 65%) from the 2000 U.S. Census Bureau statistics of individuals who self identify as White. More specifically, in 2010 the Latino population in the U.S. rose by 43% (i.e., increase from 35.3 million to 50.5 million) from 2000. Other racial and ethnic groups also demonstrated an increase including Asian Americans (3.6% to 4.8%), Blacks (12.3% to 12.6%), and Native Hawaiian/Other Pacific Islander (.1% to .2%). In contrast, people identifying as White showed the slowest growth of only 1% from 2000 to 2010; however, looking at this group from a comprehensive perspective, there was a decrease from 69% to 64% in the overall representation of White in the overall population (Humes, Jones, & Ramirez, 2011). This also supports the assertion made in the 2000 U.S. Census Bureau report that people of color will likely comprise at least half of the population by the year 2050 (Grieco & Cassidy, 2001).

Theoretical Framework

The current study seeks to investigate what variables predict competitive employment outcomes for applicants to the state-federal VR system originating from correctional facilities who have mental impairment as reported in the 2010 RSA national database. Empirically based research specifically looking at people with disabilities with criminal histories is limited. Whitfield (2008) conducted a descriptive study utilizing RSA 911 data that isolated applicants originating from correctional facilities, but he gave no suggestions for theoretical frameworks that may be useful for people with criminal histories with disabilities. Recently, Johnson (2013) proposed the use of Self Determination Theory (Ryan & Deci, 2008) and Social Cognitive Career Theory (Brown, Lent, & Knoll, 2013) as viable theoretical

frameworks to work with ex-offenders seeking competitive employment when returning to their respective communities.

Johnson (2013), drawing on the work of Ryan and Deci (2008), describes the overall goals of Self Determination Theory (SDT) as meeting three fundamental psychological needs: autonomy, competence, and relatedness. Johnson proposes that meeting the basic psychological needs addressed in SDT leads to socially acceptable functioning through the self-modification of previously disruptive behaviors, and will be effective for ex-offenders because it is based on increasing the self-motivation of the client, thereby increasing the potential outcomes for job success. In addition, Johnson (2013) posits that the routinization of offenders while incarcerated often negatively impacts ex-offenders self-motivation upon release due to their orientation towards being controlled by others, instead of initiating action out of self-motivation. Using SDT as a theoretical lens for this study, therefore, may address the lack of motivation and negative internalization of self worth many offenders face after periods of incarceration.

Although SDT addresses ex-offenders' interiority (i.e., internal motivators), it does not directly address external factors, including barriers. Johnson (2013) proposed that Social Cognitive Career Theory (Brown, Lent, & Knoll, 2013) may help with external factors that are uniquely faced by ex-offenders seeking job opportunities in the community. External barriers (e.g., public stigma, employer bias) are often present for people with criminal histories, disability, and racial/ethnic minority status when separately considered. The combination or intersection of these factors may produce unique barriers that should be accounted for when working with this population. Johnson (2013), drawing on the work of Lent, Brown, and Hackett (1996), posits that SCCT has the ability to potentially address the

external realities often faced by people with disabilities and criminal history. Social Cognitive Career Theory holds personal choice as a central tenant in the career decision-making process. Three factors are central to SCCT: “triadic reciprocity, in which personal attributes (internal cognitive and affective states), physical attributes (external environmental factors), and overt behaviors or actions all function as mechanisms affecting each other in various ways” (Johnson, 2013, p. 86). In addition, Johnson (2013) drew on the work of (Albert & Luzzo, 1999) to note three other core concepts of SCCT: self-efficacy, outcome expectations, and goal setting. For ex-offenders the ability to believe in the self, combined with positive expectations for employment are critical to proactive goal setting. Johnson (2013) proposed that the combination of SDT and SCCT would proactively address internal and external factors that often interrupt the successful acquisition of employment for people with disabilities and criminal history. These theories, combined with the existing literature, have guided the development of the following research questions for this study:

1. What racial and ethnic group differences exist among people with criminal histories and mental impairment served by the VR system?
2. For people with criminal histories and mental impairment served by the VR system, what differences exist in the types of services received across racial and ethnic groups?
3. What are the reasons for case closure for people with criminal histories and mental impairment served by the VR system across racial and ethnic groups?
4. How does demographic information and types of services, for people with criminal histories and mental impairment served by the VR system, predict employment outcomes across racial and ethnic groups?

Limitations

Although this study addresses many of the methodological challenges facing researchers investigating the intersection of mental impairment, individual demographics, and criminal history in the RSA 911 database, some limitations must be addressed. An initial limitation is the strictures on the types of queries that could be made of the RSA 911 data. While the data represent the apex of information collected on people with disabilities seeking services from the state-vocational rehabilitation program, it was limited on the collection of specific criminal history that would have enhanced the analysis of the current study. For example, the length of time served is often an indicator of successful employment for people with criminal records (Petersilia, 2003).

Another key limitation was the way closures were coded in the RSA 911 database. A large number of the data files in the RSA 911 database (i.e., applicants with criminal histories and a mental impairment) had closures that had to be collapsed into single variables or eliminated all together (this will be explained further in chapters three and four). Closure status is used in the current study to determine which applicants actually can be counted as having achieved competitive employment as a result of their VR services. For example, it would have been unethical to include people with a closure status of “death” in the analysis of competitive employment. As a result, the initial population thought to be available for analysis was reduced to approximately half. While the reduction represents a significant decrease, the remaining population was still large enough (i.e., had sufficient power) to produce significant outcomes for the questions under investigation.

Definition of Terms

Competitive employment. Within the VR system, competitive employment is defined as employment obtained by an individual with a disability in an integrated setting that pays minimum wage or higher and is comparable to employment positions held by people without disabilities.

Order of selection. This is a three level classification system (category one for eligible individuals with two or more significant disabilities, category two for eligible individuals with significant disabilities, category three for eligible individuals with non-significant disabilities) used in some states when it anticipates that there will not be enough funds to fully serve eligible individuals.

RSA-911 database. This is a national database managed by Rehabilitation Services Administration. The information collected for RSA 911 pertains to demographics, VR services, and VR outcomes for all individuals who applied for public state-federal VR services within the U.S.

Successful VR outcome. A VR outcome is considered successful when a consumer obtains and maintains competitive employment.

VR statuses. Below is a list of the status codes used to describe service delivery interventions and outcomes used in the VR process as defined by RSA

Status and Definition

- 02 Applicant - Indicates an individual has applied for VR services
- 04 Eligible Waiting List – Individual is on the Order of Selection waiting list
- 08 Closed before Eligibility – Individual has been determined ineligible for VR services or withdrew the application prior to an eligibility determination

10 Eligible (Acceptance) – The VR Counselor has certified how the individual’s disabilities result in a substantial impediment to employment, and that the individual can benefit from rehabilitation services in terms of an employment outcome

12 Individual Plan for Employment (IPE) – An IPE is complete, as jointly developed by the VR Counselor and the individual to address vocational and related issues identified as substantial impediments to employment, but no services have been provided.

26 Rehabilitation – Successful case closure

28 Closed after Rehabilitated – Closed not rehabilitated after the IPE has started (at least one IPE service was provided)

30 Closed before Rehabilitated – Closed not rehabilitated after eligibility (status 10) and before IPE services had begun (status 12)

Summary

The intersection of criminal history, mental impairment, and racial status has not been critically investigated to date in the vocational rehabilitation counseling literature. The shifting national U.S. demographics, and the growing number of people with mental impairments in correctional institutions suggests that the VR system needs to critically examine factors for successful outcomes for this population. Using data collected from the fiscal year (FY) 2010 RSA-911 database, this study examined vocational rehabilitation outcomes, service delivery, and demographic variables among applicants originating from correctional facilities. The following literature review will provide a foundation for the research questions stated above.

Chapter 2: Review of the Literature

The current study examined whether differences existed in competitive employment outcomes and service patterns for consumers with criminal histories and mental impairments in the state-federal VR agencies across the U.S. In this chapter, I discuss variables in the VR literature that have been linked with successful employment outcomes. Second, a systematic review of the literature on the effects of age, education, race and ethnicity, and primary disability on the state-federal VR system is presented in support of the study research questions. Third, I provide a review of the literature on state-federal VR outcomes rates. Prior to analyzing variables in the VR literature that have been linked with successful outcomes, a brief revisiting of the theoretical framework guiding this study will be provided to further ground how existing research informed the current study.

The analysis and review of variables that impact both internal and external factors in accordance with SDT and SCCT fit with the theoretical framework for the current study. In combination with SDT and SCCT as the theoretical framework, the current study sought to establish a rationale for focusing on racial and ethnic differences. For this aspect of the study, Wilson's (2000, 2002) research was reviewed to show the significant gaps in acceptance to VR programs that exist along racial and ethnic lines. The current study, guided by the thinking provided by SDT and SCCT and the research on racial/ethnic disparities, attempted to predict salient variables affecting the acquisition of competitive employment for people with mental impairments and criminal history in the state-federal VR system. Wilson's (2000, 2002) use of nominal and categorical variables in his logistic regression model provides a statistical blueprint for formulating the research questions posed in this study.

Variables for Successful Outcomes

Due to the dearth of research on variables predicting successful state-federal VR closures (status 26) for ex-offenders, it is important to establish an empirical record for variables that have been investigated and documented in the vocational rehabilitation literature. Saunders, Leahy, McGlynn, and Estrada-Hernández (2006) identified 62 studies between 1980 and 2004 that focused on a wide range of client variables that lead to successful VR outcomes. For the purposes of this study, the author focused on studies that addressed: (a) demographics, (b) VR services, and (c) primary disability. The present review will focus on selected studies identified in the meta-analysis that reported significant findings. These variables will be extrapolated to support the current research questions that seek to predict variables leading to successful outcomes for ex-offenders with mental impairments in the national RSA 911 database.

Saunders et al. (2006) analyzed 118 articles, but only selected variables had at least 50% significant results. As a result, the selection of articles was limited to selected variables to get the highest rate that produced significant results when considering which variables to extrapolate for research questions. In addition, an even smaller number of variables had direct bearing on ex-offender status. The current study drew from studies in the meta-analysis that focused on the following variables: (a) age, (b) education, (c) race/ethnicity (while ethnicity was not directly addressed in the meta-analysis, it was a variable of interest in crafting research questions), and (d) diagnosis/disability type. Each study was re-examined to determine fit for the current the current study.

Demographic Variables: Age, Education, Race

Age. Saunders et al. (2006) reviewed 14 articles that specifically studied the relationship between age and the obtainment or regaining of employment. The age variable meets the standard of statistical significance for the present review as 11 of the 14 articles (79%) found significant results. Studies conducted between 1983 and 2003 specifically looking at the relationship between age and employment outcomes found that younger individuals with disabilities had better employment outcomes than their older counterparts (Blackwell, Leierer, Haupt, Kapitsis, & Wolfson, 2004; Lustig, Strauser, Weems, Donnell, & Smith, 2003; Vander Kolk & Vander Kolk, 1990). For example, Lustig et al. (2003) found age to be significant in that younger workers were more likely to be employed than their older counterparts with a population of people with traumatic brain injury. Likewise, Blackwell et al. (2004) also found age to be significant in that younger workers were more likely to be employed than their older counterparts with a population of people receiving workers compensation from back injury. Several studies found that younger individuals tended to have better employment outcomes across different populations of people with disabilities.

While some researchers confirmed similar findings of younger individuals having better employment outcomes, other researchers found the opposite. For example, Saunders et al. (2008) reported that a study conducted on people with visual impairments (Farish & Moore, 1989) found older participants had better employment outcomes. Upon further review of the article, Farish and Moore (1989) directly reported not to have found any significance for age and employment outcomes. Other studies had mixed results ranging from finding both older and younger age groups with better employment outcomes (Marshak,

Bostick, & Turton, 1990) to studies finding no relationship between age and obtaining or re-gaining employment (Fitzgerald, McGowan, Kutner, & Wenger, 1982; Smith & Crisler, 1985).

In more recent studies investigating outcomes for vocational rehabilitation consumers (Jung & Bellini, 2011; Jung, Schaller, & Bellini, 2010), age was not among demographic variables found to be significant for this population. Jung and Bellini (2011) found that Supplemental Security Income/Social Security Disability Income at referral and level of education were more reliable and significant predictors of greater earnings and/or successful outcomes for employment. These researchers used utilize logistic regression with the RSA-911 database to find variables with significant predictability for successful outcomes. While neither of the more recent studies found significance with age, prior research has shown age to be a significant predictor of better employment outcomes for people with disabilities seeking to regain or obtain employment.

Education. The studies I re-examined from the Saunders et al. (2008) meta-analysis on education did not include college education, given that the majority of ex-offenders are undereducated (Schmitt & Warner, 2010). According to 2008 data (Harris & Wade, 2009) approximately 88% of ex-offenders have educational attainment of high school or less. The adjustment for lower educational standards produced 15 of 22 studies eligible for reexamination. Two of the studies reported on the significance of age as a significant predictor of better employment outcomes but included education as a variable (Blackwell et al., 2004; Vander Kolk, 1989). In both cases the authors found a significant relationship between educational attainment and employment outcomes. The other nine studies had education as a primary focus within the list of independent variables predicting successful

obtainment or regaining of employment (Belgrave & Walker, 1991; Hollingsworth & Harris, 1980; McShane & Karp, 1993; Roesler et al., 2004; Smith & Crisler, 1985). Each of these researchers found significant relationships between educational levels of participants and their employment outcomes. For example, Roesler et al. (2004), studying a population of people with multiple sclerosis, found education to be a significant variable in the successful obtainment or regaining of employment in that those with higher educational attainment were more likely to be employed than their counterparts with less educational achievement. Other researchers found no significant relationship between education and increased opportunities for employment (Fitzgerald, McGowan, Kutner & Wenger, 1982; Lustig et al., 2003; Marshak, Bostick & Turton, 1990; Saxon, Spitznagel & Shelhourn-Schutt, 1983). Saunders et al. (2008) noted that each study suggested that greater educational attainment will most likely lead to better employment outcomes.

Race/Ethnicity. Saunders et al. (2008) identified 6 studies between 1980-2004 that specifically investigated the relationship between employment outcomes and race of people with disabilities. It is important to note that many more articles examining race and VR outcomes have been published in the same time frame studies listed in the meta-analysis (Atkins & Wright, 1980; Feist-Price, 1995; Herbert & Martinez, 1992; Ross & Biggi, 1986). In addition articles investigating race and VR acceptance have also informed rehabilitation researchers and practitioners (Wilson, 2002; Wilson, Alston, Harley, & Mitchell, 2002; Wilson, Jackson, & Doughty, 1999; Wilson, Turner, & Jackson, 2002; Wilson & Senices, 2005). The overwhelming majority of these studies found a significant relationship between race, ethnicity, and employment outcomes utilizing various statistical methodologies, ranging from logistic regression to Chi Squared Automatic Interaction Detection (CHAID). The

investigation of the relationship between race, ethnicity, and employment outcomes has a long history in addition to the studies identified by Saunders et al. (2008).

Additional studies identified in the meta-analysis directly examine the relationship between race of the client and the outcome for employment (Danek & Lawrence, 1982; Dunham et al., 2000; Hill, 1989; Moore, 2002; Santiago, 1988). Each of the studies identified evidence substantiating the significance of race in the re-gaining or obtainment of employment. Consistent with findings in previous rehabilitation literature (Feist-Price, 1995; Herbert & Martinez, 1992) African Americans and Latino people with disabilities were reported to have decreased success with employment closures (status 26). Only one of the six studies identified by Saunders et al. (2008) did not result in significant findings between race and employment outcomes.

Race and ethnicity is a variable that has a direct correlation in both rehabilitation and criminological literature. For example, research conducted in the United Kingdom by Boast and Chesterman (1995) found that Blacks were disproportionately numbered in secure facilities based in comparison to the overall population. The purpose of their study was to examine the consistently high discrepancy between the numbers of Blacks incarcerated versus their White counterparts. The authors attribute racist discrimination as a major causal factor for this phenomenon. The authors provide key definitions for racism, racial prejudice, and racial discrimination that are foundational for their research. Boast and Chesterman (1995) define racism as, “discriminatory political, economic, and social processes, linked to factors in history, which continue to allocate power and resources on a differential basis” (p. 219). Racial prejudice is defined as, “an attitude of hostility towards a racial group arising from overgeneralized and erroneous beliefs” (Fernando, 1988 as cited in Boast and

Chesterman, 1995, p. 219). The authors conclude that structural racism found in psychiatric institutions is a microcosm of larger societal racial prejudice and discrimination. As such, overrepresentation and inferior treatment is unlikely to change if these larger issues are not fundamentally changed.

Recently, research using a national sample analyzed the ethnic and racial differences for the risk of psychiatric disorders between groups (Breslau, Aguilar-Gaxiola, Kendler, Su, Williams, & Kessler, 2006). The authors found that racial minorities over their lifetime were less likely than their White counterparts to develop serious or severe psychiatric illness. These findings are incongruent with the current populations of Blacks (in particular Black men) in secure facilities, namely prisons and jails (NCSL, 2009). Blacks with psychiatric illness are overrepresented in prisons and jails in the United States (Prince, Akincigil, & Bromet, 2007). Racism, racial prejudice, and racial discrimination (Boast & Chesterman, 1995) are determinants for overrepresentation of Blacks in U.S. secure systems currently housing Blacks with psychiatric illness. Overrepresentation in secure facilities (e.g. jails and prisons) does not mean that Blacks utilize non-forced psychiatric facilities any more than their white counterparts. In fact, recent research finds that the exact opposite is true; Blacks consistently under utilize voluntary psychiatric care facilities (Richman, Kohn-Wood, & Williams, 2007).

Another recent study found that Blacks (as well as Black Latino and Asian-Indian populations) use less psychiatric medication than their White counterparts (Han and Liu, 2005). The authors do not cite any racist discriminatory factors for the above finding, and further suggested that no programs be created to bridge the disparity. Other research offers findings that may serve as correctives for the omissions in Han and Liu's research. In

particular, Gary (2005) conducts research that finds significant stigma in minority populations toward psychiatric care facilities. The stigma discussed is in direct response to the racial prejudice and less than the standard treatment given to Whites from psychiatric care facilities. As such, the authors' suggest that the stigma is grounded in the reality that Blacks have consistently received a poor standard of care (Gary, 2005). As changes in technology and medication improve the quality of services for people with psychiatric illness, the practice of providing outdated medication to Blacks instead of newer more effective medication is still pervasive. The further cultural mistrust this creates between Blacks and psychiatric care institutions are pronounced.

Primary disability. Of the ten studies selected by Saunders et al. (2008), five were chosen for re-examination (Andrews et al., 1992; Capella, 1993a; Capella, 1993b, Marshak, Bostick, & Turton, 1990). The reason for selection by the authors is that these studies closely examined the relationship between disability type and successful employment outcomes. In addition, Schawb and DeNitto (1993) found that substance abuse was a greater barrier to employment than offender status. This study is the first mention of offender status of any of the studies reviewed thus far. Capella (2003a; 2003b) has done the recent work on disability type primarily studying the relationship between people with hearing loss and employment outcomes utilizing the RSA 911 dataset. The empirical evidence from these studies suggests that diagnosis/disability type is a variable that may significantly predict better outcomes for ex-offenders with disabilities.

Outcomes and Acceptance Rates within the VR System

Atkins and Wright (1980) produced a well-known study of disparities between Blacks and Whites in the state-federal VR system using RSA data from FY 1976. Essentially, they

concluded that Black applicants experienced unequal treatment in all steps of the VR process in comparison to White applicants. In particular, they found that acceptance rates for Black applicants were disproportionately lower (5.5%) compared to White applicants. Moreover, 12% of Black applicants were determined ineligible, cited mostly for failure to cooperate, compared to slightly over 8.5% for White applicants. Additionally, higher rates of Black applicants (7%) were determined ineligible for not having a severe disability compared to 4% of White applicants. When examining case closures, a higher percentage of Blacks (42%) were closed after IPE without reaching a successful outcome compared to Whites (35%). Thus, it was reported that Whites were more successfully rehabilitated than Blacks. Yet, it is unknown if this finding was statistically significant or not as an inferential statistical test was not conducted (Atkins & Wright, 1980).

Following the Atkins and Wright study, Ross and Biggi (1986) analyzed VR outcomes (Statuses 08, 26, 28, and 30) in a sample of Whites, Blacks, AI/AN, and Asians/Pacific Islanders. They, too, found that Whites were more likely to be closed in Status 26, or successfully employed, compared to the other groups. They also found higher rates of closures in Statuses 08, 28, and 30 among the non-White consumers. Also, Whites were most likely determined ineligible for reasons of refusal of services (Ross & Biggi, 1986). A few years later, Herbert and Martinez (1992) explored if a relationship existed between ethnicity and consumer outcomes in the state-federal VR process (including statuses 08, 26, 28, and 30) and were the first to include Latinos in this type of comparison. Similar to the findings reported in the studies that preceded this one, they found that Whites were more likely to be determined eligible for VR services. Additionally, Herbert and Martinez reported that Latinos and Blacks in particular were more likely to be determined ineligible

for state-federal VR services in comparison to Whites, thus, also being less likely to becoming successfully rehabilitated. Likewise, unlike the previous studies, they found no significant differences in Statuses 28 and 30 between Blacks and Whites. One year later, Dziekan and Okocha (1993) also examined state-federal VR eligibility rates by race and ethnicity for consumers served from 1985-1989. Their findings were also comparable to Atkins and Wright's (1980), Ross and Biggi's (1986), and Herbert and Martinez's (1992) studies with Whites with disabilities most likely determined eligible for VR services than Blacks or Latinos with disabilities. In 1995, Feist-Price revealed comparable findings in her study of Black and White consumers who applied for VR services in a southeastern state. Differences were found between these groups in that Blacks were more likely to be closed in Statuses 08 and 28 compared to Whites. Thus, this study also validated the findings in the previous studies.

Wheaton (1995) also investigated acceptance rates between Black and White applicants in the state-federal VR system (Latinos were excluded due to small sample sizes). Although no statistical differences were reported between the two groups in terms of eligibility, differences in rates were found. Whites had an acceptance rate of 53% while Blacks had an acceptance rate of 47%. Following this study, Peterson (1996) also reported finding no statistical differences in acceptance rates between Blacks, Whites, Native Americans, Asians/Pacific Islanders, or Latinos. In 1999, Wilson, too, found no statistically significant differences in acceptance rates between Blacks and Whites from the FY 1996 RSA-911 database who were served in a large Midwestern state-federal VR agency.

That same year, Wilson, Jackson II, and Doughty (1999) found in their study of Black and White consumers who were served in a large Midwestern state-federal VR agency also

from the FY 1996 RSA-911 dataset that Blacks were more likely to be closed prior to successful rehabilitation specifically for failure to cooperate or unable to locate. Contrarily, Whites who closed before becoming successfully rehabilitated were more likely to do so due to having a too severe disability, having no disability, or other circumstances. In the following paragraphs, various client variables and service variables are reviewed regarding their associations with VR outcomes and VR acceptance rates in a population of people with diverse disabilities among literature conducted from the year 2000 to the present.

Outcomes and the VR System

Race/ethnicity. Patterson, Allen, Parnell, Crawford, and Beardall (2000) considered the influence of race and ethnicity in their analysis of VR outcomes among a sample of VR consumers who participated in VR services in a southeastern state. The data were taken from the FY 1996 RSA-911 database. Statistically significant differences ($p < .01$) were found between Black ($n = 3,102$) consumers and White ($n = 10,928$) consumers. Moreover, the rate of successful employment outcomes was 60% for Whites; however, only 55% of Blacks were able to reach the same outcome.

Using a sample Black and White ($n = 17,466$) consumers from the FY 1996 RSA-911 database who were served in large Midwestern state VR agency, Jackson II and Wilson (2001) reported race a statistically significant association with VR outcomes. Further, Blacks were more likely to be closed in Statuses 08, 28, and 30 while Whites were more likely to be closed in Status 26.

Wilson (2005) analyzed differences in closure statuses with race/ethnicity, including identifying as Latino, as an independent variable using FY 2001 RSA-911 data. He found that consumers who identified as non-Latino (Black; $n = 4,000$) and between the ages of 51-

60 years were more likely to be closed unsuccessfully in comparison to non-Hispanic Whites from the same age group. Further, consumers who identified as Latino and White as their race were also more likely to be successfully rehabilitated than Latinos who identified as Black. Both of these findings in Wilson's (2005) study were statistically significant.

Dutta, Gervey, Chan, Chou, and Ditchman (2008) investigated several factors of VR outcomes, including race and ethnicity, among a stratified sample of VR ($n = 15,000$) consumers with a sensory/communicative, physical, or mental disability from FY 2005 RSA-911 database. The variable of race and ethnicity was found to be statistically significant of VR outcomes. In particular, Blacks with a sensory or communicative disability were found to have a 20% lower odd ($OR = 0.80$; 95% MI: 0.67-0.96) of successfully obtaining competitive employment than their White counterparts. Additionally, Native Americans with physical impairments and mental disabilities were found to have a 51% and 50%, respectively, lower odd of gaining employment ($OR = .49$; 95% MI: 0.31-0.78; $OR = .50$; 95% MI: 0.31-0.82) in comparison to Whites with the same types of disabilities, which was also statistically significant.

Age. Age was also a statistically significant predictor of VR outcomes, but for only one of the groups in the Dutta et al. (2008) study. Consumers between the ages of 35-54 years with a sensory/communicative disability were 1.4 times more likely to be successfully rehabilitated ($OR = 1.39$; 95% MI: 1.19-1.63) compared to consumers between the ages of 16-34 years with a sensory/communicative disability. Likewise, those between the ages of 55-64 years had a 1.9 times greater ($OR = 1.88$; 95% MI: 1.47-2.39) odds of becoming successfully employed as well as those who were 65 years and older with a sensory/communicative impairment were over three times more likely ($OR = 3.30$; 95% MI:

2.40-4.54) of obtaining competitive employment when compared to the 16-34 age group with the same type of disability. Additionally, it was noted that age was not a statistically significant predictor of employment outcomes for those with physically or mentally related disabilities.

Education. In the study conducted by Jackson II and Wilson (2001), educational status at application also showed to be statistically significant. Hence, Whites were more likely to have a high school diploma or higher when applying for VR services while Blacks were more likely to apply with less than a high school diploma.

Dutta et al. (2008) also reported education to be a statistically significant predictor of successful VR outcomes for two of the groups in their study. Consumers with a sensory/communicative related disability who participated in a special education program demonstrated a 58% ($OR = 0.42$) decreased chance of becoming successfully employed when compared to consumers with a college degree and the same disability category. Further, high school dropouts with a sensory/communicative impairment showed a 35% lesser chance ($OR = 0.62$) of reaching a Status 26 while those with a high school diploma had a 26% lower odds ($OR = 0.74$) of obtaining competitive employment. Likewise, consumers with physical impairments who had less than a high school education had a 50% lower odds ratio ($OR = 0.50$) of being successfully employed compared to consumers with a college degree. Similarly, consumers with physical disabilities who had a high school education demonstrated a 36% lesser chance ($OR = 0.64$) while consumers with some postsecondary education or an Associate's degree had a 32% decreased odds ($OR = 0.68$) of closing in Status 26 compared to consumers with college degrees. Finally, Dutta et al. (2008) noted

that education was not a statistically significant predictor of successful rehabilitation for consumers with mental disabilities.

Counseling and guidance. Substantial counseling and guidance was reported to be statistically significantly with successful employment outcomes for people with physical and mental impairments only in the study by Dutta et al. (2008). Moreover, people with physical impairments who received substantial counseling and guidance had a 1.2 greater chance ($OR = 1.16$) of being successfully employed while those with mental impairments who also received this service had a slightly greater odds of becoming competitively employed ($OR = 1.18$). No statistically significant associations were reported with receiving this service and reaching a Status 26 for those in the sensory/communicative disability group.

Assessment. In their study of consumers with a dual diagnosis of a mental health impairment and substance abuse, Robinson and Klein (2008) found consumers of color who had received assessment services were assessed at a lower rate than White consumers. Moreover, of the total sample, 25% ($n = 13,874$) of the consumers of color received assessment services compared to 29% ($n = 15,967$) of the White consumers. This difference, however, was not statistically significant.

Unsuccessful closure reasons. Chan, Wong, Rosenthal, Kundu, and Dutta (2005) reviewed race and its interaction with unsuccessful closures from the FY 2001 RSA-911 data ($N = 628,248$). They found that Blacks showed the highest rates of closing for failure to cooperate (25%) while Asian Americans had the lowest rates for this reason (12%). On the other hand, Asian Americans displayed the highest percentages (24%) of closing for unable to locate or contact. While Whites had the highest rates of closing for refusal of services

(26%), Latinos showed the lowest (15%) for this closure reason. In contrast, Latinos had the highest percentages for closing as having no disabling condition.

In 2010, Kolakowsky-Hayner also evaluated factors related to state-federal VR acceptance rates among a sample of participants with varying types of brain injury as collected from the FY 2001 RSA-911 database. The sample included Whites ($n = 15,101$; 83%), Blacks ($n = 2,607$; 14%), Latinos ($n = 1,432$; 8%), AI/AN ($n = 305$; 2%), and Asian/Pacific Islander ($n = 280$; 2%). When comparing Whites to non-Whites, she also found that Whites were more likely to be closed for refusing services (32%), unable to locate/contact or moved (21%), and failure to cooperate (16%) while non-Whites were more likely to be closed for refusing services (25%), unable to locate/contact or moved (25%), and failure to cooperate (21%).

Summary of Outcomes and the VR System

Similar to the literature reviewed on VR outcomes, the literature reviewed in this section of VR outcomes among consumers with other types of disabilities also reveals evidence that race and ethnicity can have an influence on VR outcomes and the types of services received as part of the IPE. Generally, more Whites with disabilities were reported to reach successfully rehabilitated outcomes in comparison to people of color (Dutta et al., 2008; Jackson II & Wilson, 2001; Patterson et al., 2000; Wilson 2005). In addition, one study reported that White Latinos also showed a greater rate of closing in a Status 26 compared to Black Latinos (Wilson 2005). A possible explanation for this finding is that White Latinos may have similar experiences as White non-Latinos based on their phenotype when compared to Black Latinos (Wilson & Senices, 2005). Hence, this study found that consumers between the ages of 16-34 years had the lowest rates of competitive employment

while those between the ages of 35-54 years had the highest (Dutta et al., 2008). Education was also similar to the literature reviewed in the previous section; consumers with a high school or more educational level, especially those with a college degree, had a greater chance of closing successfully than those with less than a high school diploma (Dutta et al., 2008; Jackson II & Wilson, 2001).

Comparable to the studies reviewed on consumers with mental impairment and the VR system, job search assistance, job placement assistance, and on-the-job supports were found to significant predictors in one study (Dutta et al., 2008); however, this was not reviewed on the basis of race. Robinson and Klein (2008), for college/university training and vocational training, reported that consumers of color were less likely to receive college/university training as part of their IPE services. Likewise, another study by Dutta et al. (2008) found that people with physical disabilities were more likely to receive college/university training while those with mental disabilities were more likely to receive vocational training. In addition, receiving substantial counseling and guidance was not significantly correlated with closing in a Status 26 for consumers with a physical or mental disability. Robinson and Klein (2008) additionally found that only one study found assessment services provided at a higher rate to White consumers than consumers of color, however, this finding was not statistically significant.

Similar to the literature reviewed in the first section, the literature reviewed in this section found that White consumers with general disabilities were also more likely to have a higher amount of funding allocated to their cases in comparison to consumers of color with general disabilities (Mwachofi et al., 2009; Patterson et al., 2000; Robinson & Klein, 2008). One study, however, found that more funding was spent on cases for consumers of color who

closed unsuccessfully, but not for those who closed successfully (Robinson & Klein, 2008). Likewise, the studies reviewed here found that White consumers were more likely to spend more time in the VR system than consumers of color (Mwachofi et al., 2009; Robinson & Klein, 2008). Additionally, one study reported that White consumers had higher weekly earnings after the completion of VR services, but for hours worked, consumers of color showed a slightly higher increase than White consumers (Mwachofi et al., 2009). Finally, two of the studies also found that for Blacks consumers who closed unsuccessfully, the reason cited was most likely failure to cooperate, which validated the findings of the Atkins and Wright (1980) case (Chan et al., 2005; Kolakowsky-Hayner, 2010).

Acceptance Rates and the VR System

Race/ethnicity. Race and ethnicity continues to be a widely studied variable for its association with state-federal VR acceptance rates. Wilson (2002) explored whether significant differences existed in state-federal VR acceptance rates between Blacks ($n = 58,658$), AI/AN ($n = 3,191$), Asian Americans/Pacific Islanders ($n = 3,653$), and Whites ($n = 194,250$) using FY 1998 RSA-911 data. The findings revealed Black applicants were less likely to be accepted for VR services in comparison to White applicants which was statistically significant. Further, the only groups that did not show any statistically significant differences were among applicants who identified as AI/AN and Asian/Pacific Islander. Therefore, the findings from this study contrasted the Wilson (1999) study and Wheaton (1995) studies.

Also in 2002, Wilson, Alston, Harley, and Mitchell investigated the effects of several variables on VR eligibility determination using FY 1998 RSA-911 data. Participants included Blacks ($n = 46,816$), Whites ($n = 164,183$), Asian/Pacific Islander ($n = 3,098$), and

AI/AN ($n = 2,476$). In contrast to previous findings, they found that Black applicants were over two times more likely to be determined eligible for VR services compared to White applicants. Likewise, they also found a positive correlation among AI/AN applicants and acceptance rates; however, this finding was not statistically significant. Also, it was noted that Asians/Pacific Islanders had a negative correlation with VR eligibility determinations (Wilson et al., 2002).

Chan et al. (2005) also investigated several factors related to acceptance rates using the FY 2001 RSA-911 data and found race to be the second most important predictor of acceptance rates (behind severe disability status). They reported that Whites and Asian Americans with severe disabilities displayed higher acceptance rates (94% and 96%, respectively) when compared to Blacks (91%), Latinos (91%), and AI/AN (93%) with severe disabilities, which is somewhat incongruent with the previous literature reporting no statistical significance or a negative correlation for individuals who identify as Asian or Pacific Islander. Distinctly, they found a difference of six percent in acceptance rates between Blacks and Whites, which fundamentally validates Capella's (2002) finding of a five percent difference in acceptance rates between Blacks and Whites (Chan et al., 2005).

Wilson and Senices (2005) also explored public VR acceptance rates by race, particularly between consumers who identify as Latino ($n = 34,563$) and all other non-Latinos ($n = 157,131$), as taken from the FY 1998 RSA-911 database. Overall, they found that identifying as Latino or non-Latino accounted for 32% of the variance in state-federal VR eligibility determination. Further, consumers who were Latino/a were more likely to be accepted for VR services in comparison to consumers who were non-Latino/a (e.g., White, Black, AI/AN, and Asian/Pacific Islander). Thus, the findings of this study were inconsistent

with previous findings (e.g., Herbert and Martinez, 1992; Dziekan and Okocha, 1993) that Latinos were one of the least likely groups to be determined eligible for VR services.

Kolakowsky-Hayner (2010) also evaluated factors related to state-federal VR acceptance rates from the FY 2001 RSA-911 database. When examining this outcome with race and ethnicity, it was also reported that Whites ($n = 3,852$) and Asian Americans or Pacific Islander had the highest acceptance rates (86% and 85% respectively) followed by AI/AN (82%) and Blacks (82.3%). Further, the lowest acceptance rates were found among Latinos (81.6%). Thus, the findings in the Kolakowsky-Hayner study related to Asians and Pacific Islanders are compatible with Chan et al.'s (2005) findings, but contradict findings in earlier studies such as Wilson (2000; 2002).

Gender. From the 2001 RSA-911 data, Chan et al. (2005) reported finding no statistically significant differences in acceptance rates by gender (56% male; 44% female). Kolakowsky-Hayner (2010) also did not find any statistically significant differences in VR acceptances when comparing males ($n = 12,151$; 66%) and females ($n = 6,153$; 34%).

Education. In 2001, Wilson, Harley, and Alston revisited the interaction of race and acceptance rates as a means to validate the earlier findings of Wilson (1999). This study, however, included education as a control variable. Participants for this study (African Americans [$n = 1,453$] and Whites [$n = 3,122$]) were taken from the FY 1998 RSA-911 database and focused on participants who were served a public VR agency in Michigan. They concluded that VR acceptance rates were dependent on race. With regards to education, they found that Blacks with a high school diploma or less were least likely to be found eligible for VR services when compared to Whites with an equal level of education (Wilson et al., 2001). Wilson et al. (2002) also explored educational levels with eligibility

determinations and reported that after controlling for educational levels, consumers with greater than a high school diploma had lower chances of being accepted for VR services (i.e., as education increased, VR acceptance rates decreased).

In a study conducted by Wilson and Gines (2009), education was found to be the third strongest statistically significant predictor in their study of VR applicants ($n = 12,000$) acquired from the FY 1998 RSA-911 database. Applicants who had a high school diploma or higher were more likely to be determined eligible for VR services regardless of other factors such as race or significance of disability.

Kolakowsky-Hayner (2010) found education to be the most statistically significant predictor of acceptance rates. Particularly, she reported that consumers who had participated in special education services had higher acceptance rates (89%) compared to those who had received their education in a public education system (85%). Moreover, those who had a received special education services had a better rate of acceptance than those with more than a high school diploma (86%), a high school diploma or equivalent (85%), and less than a high school education (84%).

Significant disability. Chan et al. (2005) found severity of disability to be the most statistically significant predictor of acceptance rates from the 2001 RSA-911 data. Additionally, people with severe disabilities were more likely to be accepted for VR services (93%) when compared to people who had no severe disability (45%). Thus, the effect size found for severity of disability was 16.4, which is credited as a large effect. Chan et al. also found that Asian Americans who had a severe disability had the highest rate of acceptance (96%) while Blacks and Latinos with severe disabilities continued to have the lowest VR acceptance rates (91%). When considering applicants who did not have a severe disability,

both Asian Americans and Latinos had the highest acceptance rates at 50% followed by Whites (45%). Those who identified as Black and had no severe disability still had the lowest rates of VR acceptance (37%). Hence, the difference in VR acceptance rates between Blacks and Whites without severe disabilities increased to 8%.

Wilson and Gines (2009) also analyzed VR eligibility determinations among a stratified sample of Blacks ($n = 3,000$), Whites ($n = 3,000$), AI/AN ($n = 3,000$), and Asians/Pacific Islanders ($n = 3,000$) as obtained from the FY 1998 RSA-911 database. Overall, they found that having a severe disability was a statistically significant predictor of VR eligibility determination. Of the consumers who had a significant disability, 99.5% were certified as eligible for VR services while 96.5% of those without a significant disability were also accepted. When considering the influence of race and significant disability on acceptance rates, those who identified as Black or AI/AN and had a significant disability showed a somewhat greater rate of VR acceptance than all other racial/ethnic groups at 99.8%. For those without a significant disability, being White, Black, or AI/AN was associated with higher rates of acceptance at 97%. Further, Asians/Pacific Islanders showed the lowest rate of acceptance (93%) among those with no severe disability.

Summary of Acceptance Rates and the VR System

As found in the literature reviewed in this section, race and ethnicity also appears to have a significant influence on VR acceptance rates for consumers with general disabilities. For example, while one study found Black applicants were less likely to be accepted for VR services than White applicants (Wilson, 2002); another reported they were more likely to be accepted than Whites (Wilson et al., 2002). Wilson (2002) speculates that negative views of particular ethnic groups may be a possible explanation for lower acceptance rates in

comparison to Whites; however, Wilson et al. (2002) note that because rates of disability are higher among Blacks, this might explain why they found a higher acceptance rate among this population in their study. One study found Latinos to have the highest acceptance rates over non-Latinos (Wilson & Senices, 2005) while another study found Latinos to have the lowest rates of VR acceptance in comparison to Whites, Asians, AI/AN, and Blacks (Kolakowsky-Hayner, 2010). Moreover, Wilson and Senices (2005) point out that although their findings appear to contradict the Dziekan and Okocha (1993) study, one possible explanation could be that the participants used in the Dziekan and Okocha study may have categorized as Latino only with no option to choose a race (e.g., White, Black) as participants did in the Wilson and Senices study. In addition, one study found Asians/Pacific Islanders to have one of the highest acceptance rates (Chan et al., 2005) while another found a negative correlation with identifying as Asian/Pacific Islander and VR acceptance rates (Wilson et al., 2002). For gender, two studies reported finding no significant differences between males and females and acceptance into VR services (Chan et al., 2005; Kolakowsky-Hayner, 2010). The findings on education were somewhat inconsistent in that those with a high school diploma or less were least likely accepted for VR services, especially for Black applicants (Wilson et al., 2002; Wilson et al., 2001), while another found consumers with high school diplomas to have the highest rates of acceptance (Wilson & Gines, 2009). Also, another study found that consumers who had received special education services were more likely determined eligible for VR services over those with more than a high school diploma, high school diploma, or less than a high school diploma from a regular education system (Kolakowsky-Hayner, 2010).

A few of the studies also found having a severe disability to be statistically significant with acceptance into VR services compared to not having a severe disability (Chan et al., 2005; Wilson & Gines, 2009). Chan et al. notes this to be consistent with the Rehabilitation Act of 1973 in which consumers with the most severe disabilities have the highest priority in being served in state VR agencies. Also, when analyzed by race, one study reported Asians with a significant disability had the highest rate of VR acceptance while Blacks and Latinos with significant disabilities had the lowest rates of acceptance (Chan et al., 2005). One possible explanation mentioned in the Chan et al. study regarding this finding is that consumers who present with stereotypes held by White professionals may provoke negative judgments on that particular group. Another study found that Blacks and AI/AN with significant disabilities had the highest rates of acceptance into VR services compared to all other racial or ethnic groups (Wilson & Gines, 2009). Lastly, two of the studies reviewed sources of support and its relationship with acceptance into the VR system. It was determined that higher personal earnings and receiving support from family and friends decreased a consumer's chances into being determined eligible for VR services (Wilson, 2000; Wilson et al., 2002)

Summary

Demographic variables have an established and significant effect on VR acceptance and outcomes. This chapter reviewed the influence of significant disability (i.e., mental impairment), and race/ethnicity on the process of VR acceptance and outcomes. The primary goal of the literature review was to establish salient variables that could be applied to people with disabilities with criminal history and mental impairment in the current study. More than thirty years of research has established race/ethnicity, age, gender, education, and primary

disability as salient demographic variables for empirical research. In addition, assessment, counseling and guidance, diagnosis and treatment, job readiness assistance, job placement assistance, job search assistance, and information and referral services were salient service variables for analysis. Each of these variables was included in the overarching research question of which variables predict successful employment outcomes for people with criminal histories and mental impairment.

Chapter 3: Methodology

This study investigated VR outcomes of people with criminal histories and mental impairment served by the state-federal VR system during FY 2010. More specifically, this study examined predictors of successful competitive employment outcomes based on consumer demographic information, types of services received, and delivery of services. Additionally, this study analyzed differences in VR experiences among different racial and ethnic groups. The following research questions were developed as a result of a review of the literature.

Research Questions

1. What racial and ethnic group differences exist among people with criminal histories and mental impairment served by the VR system?
2. For people with criminal histories and mental impairment served by the VR system, what differences exist in the types of services received across racial and ethnic groups?
3. What are the reasons for case closure for people with criminal histories and mental impairment served by the VR system across racial and ethnic groups?
4. How does demographic information and types of services for people with criminal histories and mental impairment served by the VR system predict employment outcomes across racial and ethnic groups?

Research Design

This study is an ex post facto design since it explores relationships with non-manipulated independent variables. Additionally, groups and conditions had previously been formed and applied prior to the start of this study. The research questions were derived from the reviewed literature and tested after relationships between variables had been established.

In other words, ex post facto research designs use information that already exists among intact groups and attempts to look backward to explain how a given set of independent variables affected a dependent variable, with the term “ex post facto” literally translating to “after the fact” (Heppner, Wampold, & Kivlighan Jr., 2008). One issue with utilizing an ex post facto design is the likelihood of chance influencing the findings. Heppner et al. (2008) note that particularly with a large set of variables results are likely to be affected by chance, which may lead to erroneous conclusions.

Additionally, this study used a secondary data analysis in which data was not collected by the researcher. The data came from the RSA-911 national database for FY 2010, which was developed by RSA and based on data collected from all state-federal VR agencies throughout the U.S. and its territories (RSA, 2010).

Population

The population for this study was defined as state-federal VR consumers who (a) applied from a correctional facility, (b) had a mental impairment, and (c) identified their race/ethnicity as Black, White, Latino/a, American Indian/Alaska Native, Asian Americans, and Native Hawaiian/Other Pacific Islander. The participant pool for this study was comprised of 3,067 state-federal VR consumers with documented cases in the 2010 RSA-911 database. In this case, consumers matching the above three conditions were eligible for the participant pool.

Power Analysis

Power is defined as the probability that a statistical test will yield statistically significant results to reject the null hypothesis when the null hypothesis is false (Cohen, 1988). In order to determine the power in a study, three factors must be considered: alpha

level, population size, and effect size (Cohen, 1988). A power analysis is usually conducted at the beginning of a study to calculate the minimum population size needed to detect a given effect size (Grimm, 1993).

Many studies conducted in the social sciences field set the alpha level (i.e., significance level; α) at .05 to indicate the probability of making a Type I (i.e., rejecting the null hypothesis when the null hypothesis is in fact true). In other words, a .05 alpha level represents a 5% chance that a Type I error will be committed. Likewise, a Type II error (i.e., β) is committed when the null hypothesis is accepted when it is actually false (Cohen, 1988). Cohen suggests that by increasing the sample size, variance can be decreased. Effect size measures the relationship between two variables and as it increases, so does the magnitude that this relationship would exist in the population. An effect size can be categorized as small, medium, or large. The effect sizes reported in the studies reviewed ranged from .16 (small) to .28 (medium) to .53 (large) for a multiple logistic regression analysis; however, the average effect size was .16 (small; Cohen, 1988).

All information from consumer records in this study was classified according to RSA's coding system, which is primarily binary and allows for easily translating responses into a computer two-digit format (Neubauer, Freudenberg, & Kuhn, 2007). The *Reporting Manual for the RSA 911 Case Services Report* is the codebook that describes reporting formats and translation for codes used in the RSA-911 database. The RSA-911 database is both mutually exclusive and exhaustive since data from consumers are classified into one category (e.g., received job coaching, did not receive job coaching) and is exhaustive because all data from consumers is placed into some type of category (Frankfor-Nachmias & Nachmias, 1996, as cited in Boutin, 2006).

Additionally, it is acknowledged that some coding errors may exist within the data since they are collected from an archived database. It should be noted, however, that two separate parties monitor the RSA 911 database. The first party was the VR agency itself, which is required to regularly review all consumer records involved with a caseload before the information is officially passed on to RSA. Thus, it is assumed that each VR agency systematically checks for errors in data recording. The second party that checks for errors in the RSA 911 data is the central office assigned to each state VR agency. Agencies are given a set amount of time to correct any inconsistencies or errors (i.e., anomalies) found within the data that may have been overlooked by each individual unit (RSA, 2010).

Dependent Variables

Competitive Employment outcome was the primary dependent variable examined in this study. It is a categorical variable with two levels: employed (Status 26) and not employed (Status 28 or Status 30). According to RSA (2010), the variable successful competitive employment is described as full or part time employment in an integrated setting, becoming self employed, or employed in a state-managed Business Enterprise Program with earnings either at or above federal or state minimum wage. Unsuccessful employment is characterized as consumers who were not employed upon completion of VR services.

Eligibility status (i.e., acceptance for VR services) was the secondary dependent variable examined in this study. This is a categorical variable with two levels: Status 08 (closed before eligibility, in which a consumer may be ineligible or withdraw from eligibility) and Status 10 (acceptance, in which a consumer is certified by a VR counselor as having a disability that results in a substantial impediment to employment, and the consumer can benefit from VR services in terms of an employment outcome; RSA, 2010).

Block One Variables (Logistic Regression for Employment Outcomes)

Definitions outlined for each independent variable are based on information found in the RSA-911 Case Service Report Manual (RSA, 2010). Explanations for coding decisions with variables will be explained under each specific category of variables. Many of the variables had to be recoded due to the lack of numbers in the population that disallowed proper statistical analysis of hypotheses. All recoding decisions are explained.

Race/ethnicity. According to RSA (2010), race and ethnicity information should be recorded for all consumers who applied for and/or received services through any state-federal VR agency across the U.S. Furthermore, RSA (2010) assumes that many consumers should willingly self-identify with the given racial/ethnic categories; however, it is explicitly stated, “If a customer truly refuses to identify his/her race or Hispanic ethnicity status, the counselor should, at a minimum notify respondents that if they fail to self-identify that observer-identification may be used” (p.13). Likewise, those who identify as Latino/a must also identify with at least one of the racial categories; however, if the consumer only chooses to identify as Latino and does not identify with any of the racial categories, the VR counselor must follow the same procedure outlined above. The options listed for this category that will be considered for this study include Black or African American; American Indian or Alaska Native; Asian; Native Hawaiian or Other Pacific Islander; and Hispanic or Latino. For the current study, American Indian or Alaska Native; Asian; Native Hawaiian or Other Pacific Islander; and Hispanic or Latino will be collapsed into one variable due to the lack of numbers for these races and ethnicities. As a result, race and ethnicity was recoded as combined race and ethnicity as value 0, White as value 1, and Black as value 2.

Age. This is a continuous variable that represents the age of the consumer based on the date of birth provided at application.

Gender. This is a nominal variable rated as male or female. It should be noted, though, that a consumer is not required to provide a response for this variable.

Level of education attained at application. This is a nominal variable with eight categories: no formal schooling; elementary education (grades 1-8); secondary education, no high school diploma (grades 9-12); special education certificate of completion/diploma or in attendance; high school graduate or equivalency certificate (regular education students); post-secondary education, no degree; associate's degree or vocational/technical certificate; bachelor's degree; and master's degree or higher. For the purposes of analysis, three values were given to education level. No high school diploma or GED was value 0, high school or GED was value 1, and associate's degree or higher was value two.

Significant disability. This is a nominal variable that represents whether the consumer had a significant disability at any time during the VR process (i.e., significant disability, no significant disability). An individual is considered to have a significant disability when s/he has a physical or mental impairment that seriously limits one or more functional capacities towards successful employment (e.g., mobility, communication, self-care, interpersonal skills, self-direction, work tolerance, work skills), when multiple VR services can be expected over an extended period of time, and when s/he has one or more physical or mental disabilities resulting from an amputation, arthritis, autism, blindness, burn injury, cancer, cerebral palsy, cystic fibrosis, deafness, head injury, heart disease, hemiplegia, hemophilia, respiratory or pulmonary dysfunction, mental retardation, mental impairment, multiple sclerosis, muscular dystrophy, musculo-skeletal disorders, neurological disorders

(e.g., stroke, epilepsy), spinal cord conditions (e.g., paraplegia, quadriplegia), sickle cell anemia, specific learning disability, end-stage renal disease, or another disability or combination of disabilities that is diagnosed following an assessment used for eligibility determination and specific VR needs.

Block Two Variables

Assessment. This is a nominal variable that refers to diagnostics performed to determine a consumer's eligibility for VR services as well as assisting with the types of services that should be considered and/or included in the Individualized Plan of Employment (IPE).

Diagnosis and treatment of impairments. This nominal variable includes types of physical and mental restoration services needed to improve a physical or mental condition. This can include corrective surgery or therapeutic treatment; diagnosis and treatment for mental and emotional disorders; dentistry; nursing services; necessary hospitalization (inpatient or outpatient) due to surgery or treatment; drugs and supplies; prosthetic, orthotic, or other assistive devices including hearing aids; eyeglasses or visual services; podiatry; physical therapy; occupational therapy; speech or hearing therapy; mental health services; treatment of either acute or chronic medical complications and emergencies; special services for treatment of end-stage renal disease; and other medical or medically related rehabilitation services.

Vocational rehabilitation counseling and guidance. This is a nominal variable that contains two levels (i.e., those who received this service and those who did not receive this service). Essentially, this service represents the rehabilitation counseling that may relate to

vocational, personal adjustment, medical, family, and social issues provided to a consumer as needed to achieve and maintain a successful employment outcome.

Job readiness training. This is a nominal variable that represents the training a consumer needs to prepare for work (e.g., appropriate work behaviors, punctuality, dressing and grooming appropriately).

Job search assistance. This is a nominal variable that includes job search activities such as resume preparation, job interview skills, and identifying appropriate job opportunities.

Job placement assistance. This is a nominal variable that includes a referral to a specific job.

Information and referral services. This is a nominal variable that includes services offered at other agencies that are not offered through the VR program.

Data Analysis

For the first three research questions, the chi-square test of independence was used for analysis. More detailed explanations will be provided in Chapter 4. For the last research question, binary logistic regression was used to find variables that predicted successful employment outcomes. As with the first three research questions, more detailed explanation will be provided in Chapter 4.

Chapter 4: Results

The main objective of this study was to investigate salient variables within the state-federal VR system that predict successful employment for people with criminal histories who have mental impairment, which is a population that has not been previously explored in the literature. As a result, a primary task of this study was to provide key descriptive statistics to better illustrate who comprises the group of people who have mental impairments as well as a criminal history. An exploration of descriptive statistics such as demographic information, employment outcomes, employment acquired, services received, and reasons for closure was conducted. In addition to providing descriptive statistics, another purpose of this study was to investigate the relationship between selected control and predictor independent variables with the dependent variable (i.e., competitive employment). In the first part of the chapter, descriptive statistics are provided including population demographics. Then results for the research questions are provided. The chapter ends with a final summary of results. Please note all tables are located at the end of the chapter.

Descriptive Statistics for the Population

The original population for this study consisted of 3,637 people with criminal histories from the state-federal VR program in FY 2010. Analysis revealed that a large number (3,067, 85%) of the original population had a primary disability designation of mental impairment. Further reductions were made from the focus population in the RSA-911 data set based on the desire to eliminate non-response bias. In an attempt to reduce or completely eliminate response bias in the population, selected participants were removed from the analysis of research questions two to four. The following categories were removed based on the above rationale: unable to locate ($n = 585$), disability too significant ($n = 9$),

refused services ($n = 169$), death ($n = 9$), individual in institution ($n = 428$), transfer to different agency ($n = 11$), failure to cooperate ($n = 289$), no disabling condition ($n = 12$), no impediments to employment ($n = 25$), transportation not feasible or available ($n = 2$), does not require VR services ($n = 11$), and the category “all other reasons” ($n = 170$). These cases will be treated as missing data. The majority of reasons for closure (48%) for people with mental impairments and a criminal history came from four categories: unable to locate, refused services, individual in institution, and failure to cooperate. It is assumed that none of these categories are resultant from complications pertaining to the primary disability. Implications of these categories will be further discussed in Chapter Five. The removal of the above reasons for closures resulted in a reduction of population from 3,067 to 1,347 people who achieved competitive employment.

Although research questions two through four were examined using the reduced population of 1,347 people, research question one was examined using 3,067 participants. My rationale for using the larger population for research question one was that the query requires the inclusion of those previously described as missing data in order to get a more accurate picture of successful closures. Due to the inclusion of the 3,067 participants in the initial research question, demographic information will be provided on this larger population. To be clear, outside of research question one, no other research question was analyzed using the larger population.

There were 3,067 people with criminal histories and mental impairment who applied to the state-federal VR program nationwide in FY 2010. Geographically, over half (58%) of the population came from two states, Georgia ($n = 1,122$) and South Carolina ($n = 643$; 21%). Only four other states had applicants of 100 or more, Alabama ($n = 100$), Pennsylvania

($n = 109$), Louisiana ($n = 125$), and Ohio ($n = 128$; see Table 1). The racial and ethnic diversity among the population investigated can be found in Table 2.

Regarding gender and age, 84% ($n = 2,575$) were men and 16% ($n = 492$) were women ranging from 16 to 70 years of age ($M = 35.7$, $SD = 9.9$). A full descriptive table of all educational levels at application is presented in Table 3. Concerning highest level of education at application, for the purpose of analysis, the data was recoded into three groups: 48.2% ($n = 1,479$) were high school graduates or had equivalency certificates, 37.8% ($n = 1,159$) did not complete high school, and 12.5% ($n = 383$) had post-secondary education including no degree, associate's (or vocational certification), bachelor's, master's, or a higher degree. The level of education at application among the population investigated can be found in Table 3.

Descriptive Statistics for the Independent Variables

The selection of mental impairment as the primary disability of focus is based on the large percentage (85%) of people with this diagnosis in the state-federal VR data FY 2010. Within the mental impairment category, 14.2% ($n = 435$) had a cognitive impairment, 68.8% ($n = 2,109$) had a psychosocial impairment, and 17.1% ($n = 523$) had some other mental impairments not specified in the codebook.

Types of closures and reasons for closure are closely related for the current study. The inclusion of type of closure is to further illustrate the reduction of the population based on the reasons for closures. Regarding type of closure, 8.8% ($n = 269$) exited as an applicant, before eligibility; 0.1% ($n = 4$) exited during or after extended evaluation, before eligibility; 43.9% ($n = 1,347$) exited with employment; 28.8% ($n = 884$) exited without employment, after receiving services; 1% ($n = 32$) exited after eligibility but before receiving services;

1.1% ($n = 33$) exited from an order of selection waiting list; and 16.2% ($n = 498$) exited after eligibility, but before an individualized plan for employment (IPE) was developed. Thus, 86.9% ($n = 2,794$) were accepted for services and 8.9% ($n = 273$) were not accepted. The rehabilitation acceptance rate was determined by dividing the number of applicants who closed with employment ($n = 1,347$) by the number of applicants who closed with employment ($n = 1,347$) plus the number of applicants who closed without employment after receiving services ($n = 884$). This statistic resulted in a rehabilitation acceptance rate of 60.4%. The types of closures among the population investigated can be found in Table 4. The reasons for closure among the population investigated can be found in Table 5.

Research Questions

Data in this study were analyzed using SPSS version 21.0 (SPSS, 2012). Descriptive statistics were used to describe the demographic characteristics of the population and the types of services they received. To answer the research questions, two types of analyses were used. First, a chi-square test of independence was used to test VR closure by race/ethnicity, types of services, and reasons for closure. For the chi-square test of independence statistic, standardized residual scores and expected versus observed counts were discussed to better explicate the results. Then, a binary logistic regression analysis was used to test consumer demographic variables, VR service variables, and employment status at case closure.

Research Question One: Employment Outcome by Race/Ethnicity

Research Question 1 examined whether there were ethnic/racial differences among individuals with criminal histories and mental impairment who received VR services. In other words, were there differences (dependence) among Blacks, Whites, American

Indians/Alaska Natives, Asians, Native Hawaiians/Other Pacific Islanders, and Latino/as in exiting the VR program with an employment outcome? This question was investigated with a 6 x 2 chi square test of independence. This was a 2 (type of closure) X 6 (race/ethnicity) design. Type of closure consisted of two categories: (a) exited with an employment outcome and (b) exited without an employment outcome after receiving services. The analysis found statistically significant difference (dependence) among Blacks, Whites, American Indian/Alaska Natives, Asians, and Native Hawaiian/Other Pacific Islanders in exiting the system with a Status 26 (successfully closed), $X^2(N = 3,067) = 64.9, p < .001$.

The overall count (i.e. successful employment, unsuccessful employment) for the combined racial/ethnic group (Latino, Native American, Asian, and Pacific Islander) was two hundred. Of the 200 people in the combined racial/ethnic group, 30% were successfully employed. For Whites, the overall count was 1,280 people, of which 38% were successfully employed. For Blacks, the overall count was 1,581, of which 51% were successfully employed. By comparison, Blacks experienced more favorable outcomes with achieving successful employment than their racial/ethnic counterparts.

For the combined racial/ethnic group, the model produced an expected count of nearly 88 individuals that would be successfully employed, while 59 individuals were observed in the data for those successfully employed. The standardized residual was $-3.1(p < .01)$, which indicates that when an individual was one of the combined races/ethnicities they were less likely to be in competitive employment than the model posited. The chi-square model for Whites produced an expected count of 560 individuals successfully employed, while 483 were observed in the data for those successfully employed. The standardized residual was $-3.3(p < .001)$, which indicates that Whites were less likely to have successful

competitive employment outcomes than the suggested model. While the combined racial ethnic and White categories showed a significant inverse relationship to successful closure, Blacks were employed far above what the chi-square model predicted. The expected count for Blacks was 693 individuals, while the observed count was 799. The standardized residual was 4.0 ($p < .001$), showing that Blacks actually exceeded the models expectations for successful closure. Successful closure rates ranged from 29% to 51% with an overall rehabilitation rate of 43.9%. A cross-tabulation of race/ethnicity by type of closure is presented in Table 6.

Research Question Two: Types of Services by Race/Ethnicity

Research Question 2 examined whether there were differences in the types of services received among Blacks, Whites, American Indian/Alaska Native, Asian Americans, Native Hawaiian/Other Pacific Islander, and Latino/as with criminal histories and mental impairment. R_2 was examined with chi-square test of independence. This was a 7 (type of service) X 6 (race/ethnicity) design. Type of services consisted of seven case service variables (assessment, diagnosis/treatment, counseling/guidance, job readiness assistance, job search assistance, job placement assistance, and information and referral) based on prior literature on racial and ethnic minorities. The analysis found statistical significance (dependence) among Blacks, Whites, American Indian/Alaska Natives, Asians, Native Hawaiian/Other Pacific Islanders and Latino/as with MI, in the types of services received. For Assessment, $X^2(N = 3,067) = 84.5, p < .001$. For Diagnosis and Treatment of Impairments, $X^2(N = 3,067) = 48.4, p < .001$. For Counseling and Guidance, $X^2(N = 3,067) = 21.7, p < .001$. For Job Readiness Training, $X^2(N = 3,067) = 6.4, p < .05$. For Job Search Assistance, $X^2(N = 3,067) = 22.5, p < .001$. For Job Placement Assistance, $X^2(N = 3,067) =$

32.6, $p < .001$. For Information and Referral Services, $X^2(N = 3,067) = 12.8$, $p < .01$. All but two of the selected services were significant at the $p < .001$ level (Counseling and Guidance, $p < .05$; and Info and Referral Services, $p < .01$).

The overall count for each of the services provided is as follows: 201 for the combined racial/ethnic group, 1,281 for Whites, and 1,585 for Blacks. Percentages among racial/ethnic groups are provided for each service. For assessment, nearly 12% of the combined racial/ethnic group received the service. For Whites, nearly 46% received assessment services. For Blacks, nearly 43% received assessment services. By comparison, Blacks and Whites received assessment services far more frequently than their racial/ethnic counterparts. For diagnosis and treatment, nearly 32% of the combined racial/ethnic group received the service. For Whites, 43% received diagnosis and treatment. For Blacks, nearly 53% received diagnosis and treatment. For diagnosis and treatment, a gradual percentage increase of 10% was present for the combined racial/ethnic group, Whites, and Blacks respectively. For counseling and guidance, nearly 39% of the combined racial/ethnic group received the service. For Whites, nearly 47% received counseling and guidance. For Blacks, nearly 38% received counseling and guidance. While the combined racial/ethnic group and Blacks were nearly identical in terms of percentages, Whites received counseling and guidance more than their racial/ethnic counterparts.

For job readiness training, 6% of the combined racial/ethnic group received the service. For Whites, 12% received job readiness training. For Blacks, nearly 12% received the job readiness training. While the percentages across racial/ethnic groups are comparatively low with other services provided, Blacks and Whites received job readiness training more than their racial/ethnic counterparts. For job search assistance, nearly 11% of

the combined racial/ethnic group received the service. For Whites, nearly 22% received job search assistance. For Blacks, nearly 26% received job search assistance. The combined racial/ethnic group received job search assistance significantly less than Whites and Blacks. For job placement, nearly 20% of the combined racial/ethnic group received the service. For Whites, nearly 30% received job placement. For Blacks, nearly 37% received job placement. Blacks received job placement services slightly more than their White counterparts, and far more than the combined racial/ethnic group. For information and referral services, 8% of the combined racial/ethnic group received the service. For Whites, nearly 7% received information and referral services. For Blacks, nearly 4% received information and referral services. While the percentages across racial/ethnic groups are comparatively low with other services provided, Whites and the combined racial/ethnic group received information and referral services more than Blacks.

The chi-square statistic provided data on expected versus observed data based on the model. As each model was found to be statistically significant, valid results can be drawn from the data. For Assessment, the combined racial/ethnic category had a model that had an expected count of nearly 67 people, whereas the observed count was 117 with a 6.1 standard residual. This finding reveals that significantly more people in the combined racial and ethnic category received the service than expected. For Whites, the expected count was 426 people, whereas the observed count was 466 with a 1.9 standard residual. The count for Whites is fairly close, suggesting that slightly more Whites received the service than expected. Blacks were the lone group to experience fewer observed numbers than expected. Blacks had an expected count of 528 people and an observed count of 438 with a -3.9 standard residual. The finding shows that significantly fewer Blacks received the service than expected.

For Diagnosis & Treatment, the combined racial/ethnic category had a model that had an expected count of nearly 95 people, whereas the observed count was 64 with a -3.2 standard residual. This finding reveals that significantly less people in the combined racial/ethnic category received the service than expected. For Whites, the expected count was 606 people, whereas the observed count was 551 with a -2.3 standard residual. The count for Whites suggests that significantly fewer Whites received the service than expected. Blacks were the lone group to experience more numbers than expected. Blacks had an expected count of 750 people and an observed count of 838 with a 3.2 standard residual. The finding shows that significantly more Blacks received the service than expected.

For Counseling & Guidance, the combined racial/ethnic category had a model that had an expected count of nearly 84 people, whereas the observed count was 77 with a -0.7 standard residual. This finding reveals that slightly fewer people in the combined racial and ethnic category received the service than expected. For Whites, the expected count was 531 people, whereas the observed count was 594 with a 2.7 standard residual. The count for Whites is the outlier among racial/ethnic counterparts in this service category, as slightly more Whites received the service than expected. Blacks had an expected count of 657 people and an observed count of 601 with a -2.2 standard residual. The finding shows that significantly fewer Blacks received the service than expected.

For Job Readiness, the combined racial/ethnic category had a model that had an expected count of nearly 23 people, whereas the observed count was 12 with a -2.3 standard residual. This finding reveals that significantly fewer people in the combined racial and ethnic category received the service than expected, which made it the lone racial/ethnic in this service category. For Whites, the expected count was 145 people, whereas the observed

count was 154 with a 0.7 standard residual. The count for Whites is fairly close, suggesting that slightly more Whites received the service than expected. Blacks had an expected count of 180 people and an observed count of 182 with a 0.2 standard residual. The finding shows that the model was nearly perfect for Blacks who received the job readiness service.

For Job Placement, the combined racial/ethnic category had a model that had an expected count of nearly 65 people, whereas the observed count was 39 with a -3.2 standard residual. This finding reveals that significantly fewer people in the combined racial and ethnic category received the service than expected. For Whites, the expected count was nearly 415 people, whereas the observed count was 376 with a -1.9 standard residual. Significantly fewer Whites received the service than expected. Blacks were the lone group to experience more observed numbers than expected. Blacks had an expected count of nearly 513 people and an observed count of 577 with a 2.8 standard residual. The finding reveals that significantly more Blacks received the service than expected.

For Information and Referral Services, the combined racial/ethnic category had a model that had an expected count of nearly 11 people, whereas the observed count was 16 with a 1.7 standard residual. This finding reveals that slightly more people in the combined racial and ethnic category received the service than expected. For Whites, the expected count was nearly 67 people, whereas the observed count was 82 with a 1.9 standard residual. Significantly more Whites received the service than expected. Blacks were the lone group to experience fewer observed numbers than expected. Blacks had an expected count of nearly 83 people and an observed count of 61 with a -2.3 standard residual. The finding shows that significantly fewer Blacks received the service than expected. A cross-tabulation of race/ethnicity by type of closure is presented in Table 7.

Research Question Three: Reasons for Closure by Race/Ethnicity

Research Question 3 examined whether there were differences in unsuccessful closures among Blacks, Whites, American Indian/Alaska Native, Asian Americans, Native Hawaiian/Other Pacific Islander, and Latino/as with criminal histories and mental impairment. R₃ was investigated with a 10 (reason for closure) X 6 (race/ethnicity) chi-square test for independence. Reason for closure consisted of unable to locate or contact, disability too significant to benefit from VR services, refused services or further services, death, individual in institution, transferred to another agency, failure to cooperate, transportation not feasible or available, extended services not available, and all other reasons. Cases in this analysis included participants who exited the VR program without employment after receiving services.

Since over 36% of the cells did not meet the 5 or more expected frequency requirement for a valid chi square result (Preacher, 2001), the decision was made to collapse this variable into five categories (unable to locate, refused services, individual in institution, failure to cooperate, and all other closure reasons) and re-analyze the data using the same statistical procedure. Subsequent re-analysis indicated that there are statistically significant differences in the closure reasons found among Blacks (non-Latinos), Whites, American Indian/Alaska Natives, Asians, and Native Hawaiian/Other Pacific Islanders with MI, $X^2(N = 1,720) = 20.01, p < .05$.

The overall counts for reasons for closure are as follows: 585 for unable to locate, 169 for refused services, 428 for individual in institution, 289 for failure to cooperate, and 249 for all other reasons. For unable to locate, nearly 25% of the combined racial ethnic group closed for this reason. For Whites, nearly 22% closed as unable to locate. For Blacks, nearly 17%

closed as unable to locate. The combined racial/ethnic group had a higher percentage for unable to locate than their White and Black counterparts. For refused services, nearly 8% of the combined racial ethnic group closed for this reason. For Whites, nearly 8% as well closed as refused services. For Blacks, nearly 4% closed as refused services. While Whites and the combined racial/ethnic group were identical in their percentage of closure rates, Blacks experienced the lowest percentage of those closed as refused services. For individual institution, nearly 16% of the combined racial/ethnic group closed for this reason. For Whites, nearly 14% closed as individual in institution. For Blacks, nearly 15% closed as individual in institution. Among each racial/ethnic category, percentages were nearly identical for those closed as individual in institution. For failure to cooperate, nearly 11% of the combined racial/ethnic group closed as failure to cooperate. For Whites, nearly 11% closed as failure to cooperate, compared with Blacks at nearly 9 percent. Again, the percentages for failure to cooperate are nearly identical for all racial/ethnic categories with Blacks slightly lower than their White and combined racial/ethnic counterparts. For all other reasons, nearly 12% of the combined racial/ethnic group closed for these reasons. For Whites, nearly 10% closed as all other reasons, compared to Blacks at nearly 7%. Blacks were least likely to close for all other reasons than Whites or the combined racial/ethnic category.

For Unable to Locate, the combined racial/ethnic category had a model that had an expected count of nearly 38 people, whereas the observed count was 49 with a 1.7 standard residual. This finding reveals that slightly more people in the combined racial and ethnic category were closed as unable to locate than expected. For Whites, the expected count was nearly 245 people, whereas the observed count was 272 with a 1.8 standard residual. For

Whites the observed count is slightly more than expected. Blacks were the lone group to experience fewer observed numbers than expected. Blacks had an expected count of nearly 303 people and an observed count of 264 with a -2.2 standard residual. The finding shows that significantly fewer Blacks were closed as unable to locate than expected.

For Refused Services, the combined racial/ethnic category had a model that had an expected count of nearly 12 people, whereas the observed count was 15 with a 1.2 standard residual. This finding reveals that slightly more people in the combined racial and ethnic category were closed as refused services than expected. For Whites, the expected count was nearly 71 people, whereas the observed count was 94 with a 2.8 standard residual. For Whites the observed count for those closed as refused services is significantly more than expected. Blacks were again (i.e. Unable to Locate), the lone group to experience fewer observed numbers than expected. Blacks had an expected count of nearly 88 people and an observed count of 60 with a -2.9 standard residual. The finding shows that significantly fewer Blacks were closed as refused services than expected.

For Individual in Institution, the combined racial/ethnic category had a model that had an expected count of 28 people, whereas the observed count was 32 with a 0.7 standard residual. This finding reveals that slightly more people in the combined racial and ethnic category were closed as individual in institution than expected. For Whites, the expected count was nearly 179 people, whereas the observed count was 171 with a -0.6 standard residual. For Whites, the observed count for those closed as individual in institution is slightly less than expected. Blacks had an expected count of nearly 222 people and an observed count of 225 with a 0.3 standard residual. The finding shows that the observed count was closely aligned with the expected count.

For Failure to Cooperate, the combined racial/ethnic category had a model that had an expected count of nearly 19 people, whereas the observed count was 21 with a 0.5 standard residual. This finding reveals that slightly more people in the combined racial and ethnic category were closed as failure to cooperate than expected. For Whites, the expected count was nearly 121 people, whereas the observed count was 133 with a 1.1 standard residual. For Whites, the observed count for people closed as failure to cooperate is slightly more than expected. Blacks had an expected count of nearly 150 people and an observed count of 135 with a -1.2 standard residual. The finding showed that Blacks were slightly less likely than closed as failure to cooperate than expected.

For All other Reasons (i.e. disability too significant to benefit from VR services, death, transferred to another agency, transportation not feasible or available, extended services not available), the combined racial/ethnic category had a model that had an expected count of nearly 17 people, whereas the observed count was 24 with a 1.9 standard residual. This finding reveals that more people in the combined racial and ethnic category were closed as for all other reasons than expected. For Whites, the expected count was 104 people, whereas the observed count was 127 with a 2.3 standard residual. For Whites, the observed count for people closed for all other reasons was significantly more than expected. Blacks had an expected count of nearly 150 people and an observed count of 135 with a -2.7 standard residual. The finding showed that significantly fewer Blacks were closed for all other reasons than expected.. Results of this cross-tabulation and Chi-square test are shown in Table 8.

Research Question Four: Predictors for Employment Outcomes

Research Question 4 examined which consumer demographics (race/ethnicity, age, gender, educational level, significant disability) and types of services (i.e., Assessment, Diagnosis and Treatment of Impairments, Counseling and Guidance, Job Readiness Training, Job Search Assistance, Job Placement Assistance, and Information and Referral Services) predict employment outcomes among Blacks, Whites, American Indian/Alaska Natives, Asians, Native Hawaiian/Other Pacific Islanders, and Latino/as with criminal histories and mental impairment. R_4 was examined with binary logistic regression. Variables were entered using the backward stepwise method. Backward stepwise regression is the preferred method of exploratory analyses, where the analysis begins with a full or saturated model and variables are eliminated from the model in an iterative process. The fit of the model is tested after the elimination of each variable to ensure that the model still adequately fits the data. When no additional variables can be eliminated from the model, the analysis has been completed (Frankfort-Nachmias & Nachmias, 1996).

The independent variables were demographic variables (age, race/ethnicity, gender, level of education attained at application, significant disability) and types of services. The dependent variables were employment status at closure: closed with employment or closed without employment after receiving services. Demographic variables were entered in Block One as control variables, and case service variables were entered in Block Two. The square omnibus test for Block One of the model was statistically significant, $X^2(7, N = 1347) = 137.87, p < .001$. The Nagelkerke R-square = .06, which means that 6% of the variance in employment outcomes can be explained by demographic variables. After the inclusion of Block Two, this model was statistically significant, $X^2(14, N = 1347) = 527.28, p < .001$.

The Nagelkerke R-square = .21, which indicated that 21% of the variance in employment outcomes can be explained by demographic and case service variables.

The demographic variables that were statistically significant for successful employment were gender, age, and race/ethnicity. Gender and race/ethnicity were entered as categorical variables. Male was coded as value one, and female was coded as value two. The coding for racial and ethnicity was combined race/ethnicity (American Indian/Alaska Natives, Asians, and Native Hawaiian/Other Pacific Islanders) with the value 0, Whites the value 1, and Blacks the value 2. Although education was not found to be significant, it was also entered as a categorical variable with less than high school with the value 0, high school or Graduate Equivalency Diploma (GED) the value 1, and associate's degree or higher the value 2. Age was entered as a covariate, non-categorical variable. For gender, the odds (O) value was 1.82 with a p value $< .0005$, meaning that men were nearly twice as likely to obtain successful employment than women. For age, the odds value was 1.03 with a p value $< .0005$, meaning the younger an individual was, the more likely he/she was to obtain successful employment. For race and ethnicity the combined race and ethnicity was the comparison groups for Whites and Blacks. The logistic regression analysis found that based on the odds (.58), Whites were 58% less likely to obtain a successful employment outcome than the combined racial and ethnic comparison group. Blacks were 73% (odds, .73) as likely to obtain a successful employment outcome than the combined racial and ethnic comparison group.

The service variables that were statistically significant for successful employment were diagnosis/treatment, job readiness assistance, and job placement. If participants received job readiness, the odds (.49), value $p < .0005$ indicated that they would be 49% as

likely to achieve a successful employment outcome than those who did not receive the service. For diagnosis and treatment, the odds (3.42), p value $< .0005$ indicated they would be over three times as likely than those who did not receive the service to reach a successful employment outcome. In addition, consumers who received job placement had odds (3.39), p value $< .0005$ indicating that participants who received the service were well over three times as likely to achieve a successful employment outcome than those who did not get the service. These results are presented in Table 9.

Summary of Findings

Four research questions and associated hypotheses were tested. All three were found to be statistically significant. Significant differences were observed in type of closure, employment status at closure, types of services, and reasons for closure among Blacks (non-Latinos), Whites, American Indian/Alaska Natives, Asians, Native Hawaiian/Other Pacific Islanders and Latino/as with a history and incarceration and mental impairment. The rehabilitation rate for this population was 43.9%.

Hierarchical logistic binary regression was used to investigate the predictors of employment. The square omnibus test for Block One of the model was statistically significant, $X^2(7, N = 1347) = 137.87, p < .001$. The Nagelkerke R-square for demographic variables was .06. The model after the inclusion of Block Two was statistically significant, $X^2(14, N = 1347) = 527.28, p < .001$. The Nagelkerke R-square = .21, which indicated that 21% of the variance in employment outcomes can be explained by demographic and case service variables. Among the demographic variables, gender, age, and race/ethnicity were statistically significant variables on successful employment. For age, the odds value was 1.03 with a p value of .000, meaning that the younger an individual was, the more likely he/she

was to obtain successful employment. For race and ethnicity the combined race and ethnicity was the comparison groups for Whites and Blacks. The logistic regression analysis found that based on the odds (.58), Whites were 58% as likely to obtain a successful employment outcome than their counterparts. Blacks were 73% (odds, .73) as likely to obtain a successful employment outcome than their counterparts.

Among the significant case service variables, job readiness, job placement, and diagnosis had a significant effect on successful employment. If participants received job readiness, the odds (.49), p value $< .0005$ found that they would be 49% as likely to achieve a successful employment outcome. For diagnosis and treatment the odds (3.42), p value .000 found that they would be over three times as likely than those who did not receive the service to reach a successful employment outcome. In addition, consumers who received job placement had odds (3.39), p value .000 indicating that participants who received the service were well over three times a likely to achieve a successful employment outcome than those who did not get the service. A summary of findings among the population investigated can be found in Table 10. Implications of these findings will be discussed in Chapter Five.

Table 1

Top States of Application for Services

State	n	%
Georgia	1,122	36.6
South Carolina	643	21
Ohio	128	4.2
Louisiana	125	4.1
Pennsylvania	109	3.6
Alabama	100	3.3
Total	2,227	

Table 2

Race/Ethnicity

Race/Ethnicity	<i>n</i>	%
Black, Non Latino/a-Hispanic	1,585	51.7
White, Non Latino/a-Hispanic	1,281	41.8
Latino/a-Hispanic	98	3.2
American Indian/Alaska Native	72	2.3
Asian	7	.2
Native Hawaiian/Pacific Islander	24	.8
Total	3,067	100.0

Table 3

Highest Education Level at Application

Highest Education	<i>N</i>	%	<i>Cumulative</i> %
No formal schooling	13	.4	.5
Elementary education (grades 1-8)	162	5.3	5.7
Secondary education (no high school diploma (grades 9-12)	983	32.1	37.8
Special education certificate of completion/diploma or in attendance)	46	1.5	39.3
High school graduate or equivalency certificate (regular education students)	1,479	48.2	87.5
Post-secondary education, no degree	230	7.5	95
Associate degree or Vocational/Technical Certificate	109	3.6	98.6
Bachelor's degree	38	1.2	99.8
Master's degree or higher	6	.2	100.0
Total	3,067		

Table 4

Type of Closure

Type of Closure	<i>n</i>	%
Exited as an applicant, before eligibility	269	8.8
Exited during/after trial work experience/extended evaluation, before eligibility	4	.1
Exited with an employment outcome	1,347	52.8
Exited after services, without an employment outcome	884	28.8
Exited without employment, after signed IPE, but before receiving services	32	1
Exited from an order of selection waiting list	33	1.1
Exited without an employment outcome, after eligibility, before an IPE	498	16.2
Total	3,067	100.0

Table 5

Reasons for Closure

Reason for Closure	<i>n</i>	%
Employed	1,347	43.9
Unable to locate	585	19.1
Disability too significant	9	.3
Refused Services	169	5.5
Individual in institution (e.g. prison, jail, treatment center)	428	14
Transfer to a different agency	11	.4
Failure to cooperate	289	9.4
No disabling condition (no mental impairment exists)	12	.4
No impediment to employment (mild to no MI)	25	.8
Transportation not feasible or available	2	.1
Does not require VR services	11	.4
All other reasons	170	5.5
Total	3,067	100.0

Table 6

Cross-tabulation of Race/Ethnicity by Type of Closure

Type of Closure	Employed	Not Employed	TOTAL
White	484	797	1,281
% within race/ethnicity	37.8%	62.2%	100%
% of total	15.8%	26%	41.8%
Black, non-Latino	803	782	1,585
% within race/ethnicity	50.7%	49.3%	100%
% of total	26.2%	25.5%	51.7%
Combined R & E	60	141	201
% within race/ethnicity	29.9%	70.1%	100%
% of total	2%	4.6%	6.6%
Total	1,347	1,720	3,067
% within race/ethnicity	43.9%	56.1%	100%
% of total	43.9%	56.1%	100%

Table 7

Selected VR Services Provided by Race/Ethnicity

VR Service	White	Black, non- Latino	Combined R&E	Total
Assessment	466	438	117	1,021
% within service	45.6%	42.9%	11.5%	100%
% within race/ethnicity	36.4%	27.6%	58.2%	33.3%
% of total	15.2%	14.3%	3.8%	33.3%
Counseling/Guidance	594	601	77	1,272
% within service	46.7%	47.2%	6.1%	100%
% within race/ethnicity	46.4%	37.9%	38.3%	41.5%
% of total	19.4%	19.6%	2.5%	41.5%
Diagnosis & Treatment	551	838	64	1453
% within service	37.9%	57.7%	4.4%	100%
% within race/ethnicity	43%	52.9%	31.8%	47.4%
% of total	18%	27.3%	2.1%	47.4%

Job Readiness	154	182	12	348
% within service	44.3%	52.3%	3.4%	100%
% within race/ethnicity	12%	11.5%	6%	11.3%
% of total	5%	5.9%	0.4%	11.3%
Job Search	280	402	22	704
% within service	39.8%	57.1%	3.1%	100%
% within race/ethnicity	21.9%	25.4%	10.9%	23%
% of total	9.1%	13.1%	0.7%	23%
Job Placement	376	577	39	992
% within service	37.9%	58.2%	3.9%	100%
% within race/ethnicity	29.4%	36.4%	19.4%	32.3%
% of total	12.3%	18.8%	1.3%	32.3%
Information and Referral Service	82	61	16	159
% within service	51.6%	38.4%	10.1%	100%
% within race/ethnicity	6.4%	3.8%	8%	5.2%
% of total	2.7%	2%	0.5%	5.2%

Table 8

Cross-tabulation of Race/Ethnicity by Reason for Closure (Unable to Locate, Refused Services, Individual in Institution Failure to Cooperate, All Other Reasons)

Revised Reason for Closure	Combined R & E	White	Black, non-Latino	Total
Unable to Locate	49	272	264	585
% within race/ethnicity	34.8%	34.1%	33.8%	34%
% within closure reason	8.4%	46.5%	45.1%	100%
% within total	2.8%	15.8%	15.3%	34%
Refused Services	15	94	60	169
% within race/ethnicity	10.6%	11.8%	7.7%	9.8%
% within closure reason	8.9%	55.6%	35.5%	100%
% of total	0.9%	5.5%	3.5%	9.8%
Individual in Institution	32	171	225	428
% within race/ethnicity	22.7%	21.5%	28.8%	24.9%
% within closure reason	7.5%	40%	52.6%	100%
% of total	1.9%	9.9%	13.1%	24.9%
Failure to Cooperate	21	133	135	289
% within race/ethnicity	14.9%	16.7%	17.3%	16.8%
% within closure reason	7.3%	46%	46.7%	100%
% of total	4.3%	.3%	9.8%	16.8%
All Other Reasons	24	127	98	249
% within race/ethnicity	17%	15.9%	12.5%	14.5%
% within closure reason	9.6%	51%	39.4%	100%
% of total	12.9%	.5%	22.6%	14.5%

Total	141	797	782	1720
% within race/ethnicity	100%	100%	100%	100%
% within closure reason	8.2%	46.3%	45.5%	100%
% of total	8.2%	46.3%	45.5%	100%

Table 9

Hierarchical Logistic Regression Predicting Employment Outcomes (N = 3,067)

	β	SE B	df	p	Odds
Block One					
Sex (1=Men, 2=Women)	.59	.12	1	.000	1.82
R/E (Combined = 0)			2	.000	
White (1)	-.55	.18	1	.002	.58
Black (2)	-.32	.09	1	.000	.73
Age	.02	.01	1	.000	1.03
Education (No HS = 0)			2	.959	
HS or GED (1)	.03	.19	1	.889	1.52
Assoc. or Higher (2)	.05	.19	1	.814	1.05
Sig. Disability	-.08	.08	1	.276	.92
R ²		.06			
Block Two					
Assessment	.14	.10	1	.158	1.15
Diagnosis & Treatment	1.23	.09	1	.000	3.42
Counseling & Guidance	-.11	.12	1	.332	.89
Job Readiness	-.70	.14	1	.000	.49
Job Search Assistance	-.26	.15	1	.079	.58
Job Placement Assistance	1.22	.12	1	.000	3.39
Info & Referral Svcs.	.09	.19	1	.628	1.09
R ²		.21			

Note: Dependent variable was coded as Unsuccessful Closure=0, Successful Closure=1.

^a All variables entered in Block Two were coded as 0 = Not Provided, 1 = Provided

Table 10

Research Questions, Statistical Tests, and Outcomes

Research Questions	Statistical Test	Significance	Supported/Not Supported
R ₁ : Among individuals who received VR services, there are differences among Blacks, Whites, AI/AN, Asians, NH/PI and Latino/as with CH & MI in exiting with an employment outcome.	Chi-Square	$p < .001$	Supported
R ₂ : Among individuals who achieved employment outcomes, there are differences in the types of services received among Blacks, Whites, AI/AN, Asians, NH/PI and Latino/as with CH & MI.	Chi-Square	$p < .001$ for five $p < .05$ for two	Supported
R ₃ : Among individuals there are differences in reasons for closures (other than achieving employment outcomes) among Blacks Whites, AI/AN, Asians, NH/PI and Latino/as with CH & MI.	Chi-Square	$p < .05$	Supported
R ₄ : Consumer demographic information and delivery of services predict employment outcomes among Blacks Whites, AI/AN, Asians, NH/PI and Latino/as with CH & MI.	Hierarchical Binary Logistic Regression	$p < .001$ for model, but not all variables were significant predictors of employment	Partially Supported

Chapter 5: Discussion

This study examined racial and ethnic group differences among people with criminal histories and mental impairment served by the VR system. This chapter summarizes findings regarding client demographics and results for each research question using Self Determination Theory (SDT) and Social Career Cognitive Theory (SCCT) as the theoretical framework. A discussion of the study's limitations will follow as well as implications for practice and future research.

Summary of Descriptive Statistics

Almost 87% of the population from the 911-RSA data set was accepted for state-federal VR services during FY 2010. Nearly 44% of this population closed in a Status 26 (successful employment outcome) while 29% closed in a Status 28 (unsuccessful employment outcome after IPE services). Specifically, 59% of Blacks, non-Latinos; 36% of Whites; .9% of American Indian/Native Alaskans; .5% of Asians; .8% of Native Hawaiian/Pacific Islanders; and 2.2% of Latino/as closed in a Status 26.

In terms of Status 28 rates, 29% of this sample did not achieve successful vocational rehabilitation closure rates after receiving IPE services. Specifically, 53% of Blacks, non-Latinos; 42% of Whites; .2.6% of American Indian/Native Alaskans; .0% of Asians; .5% of Native Hawaiian/Pacific Islanders; and 2.1% of Latino/as closed in a Status 26. Again, this is the first known investigation into the VR outcomes of people with disabilities and criminal history with mental impairment. As a result, no known research is available to compare with these findings

When compared to the employment rates of people with disabilities who do not have a history of incarceration in the larger population, at least 15% were unemployed in 2010

compared to only 9% for people without a disability (Bureau of Labor Statistics, 2012), a rate much lower than that found in this study and previous studies. Among the larger population, Blacks (non-Latinos) with general disabilities had the highest unemployment rate at 23.5%, followed by Latinos (20%), while Asians (11%) had the lowest. On the other hand, almost 19% of people with disabilities were employed compared to 64% among people with no disability in the larger population. Specifically, 18% were Asian (a similar rate found among Whites), 16% were Latino/a, and 13% were Black, non-Latino. Thus, the rates for people of color with disabilities in the national population were higher than the rates found in this study. This could be a reflection of the implication disability type plays on the ability to obtain and maintain employment.

Research Question One

Research question one queried whether significant differences existed in competitive employment among Blacks, Whites, American Indian/Alaska Natives, Asians, Native Hawaiian/Other Pacific Islanders and Latino/as with MI. The results showed that there were statistically significant differences with reaching a successful employment outcome among this sample in FY 2010. Again, no prior research on this specific population exists in the literature, however other research has been conducted on racial and ethnic disparities in VR outcomes. As a result, the current study's findings are similar to prior research that also found statistically significant differences in VR outcomes based on race and ethnicity (Dunham, 1998; Moore, Feist-Price, & Alston, 2002). While learning disability, mental retardation, and depressive/mood disorders were the focus of the aforementioned research on VR outcomes, several studies conducted on sensory disabilities have returned mixed or conflicted findings on racial and ethnic disparities (Martin, 2010).

In looking at the overall numbers for those in the study who successfully closed versus those unsuccessfully closed, the number of combined racial/ethnic group (Latino, Native American, Asian, and Pacific Islander) was two hundred people. Of the 200 people in the combined racial/ethnic group, 30% were successfully employed. For Whites, the overall count was 1,280 people, of which 38% were successfully employed. For Blacks, the overall count was 1,581, of which 51% were successfully employed. By comparison, Blacks experienced more favorable outcomes with achieving successful employment than their racial/ethnic counterparts. The number of Blacks successfully closed is encouraging, given that the majority of the prison population in the United States is Black men (NCSL, 2009).

The expectation that differences in achieving successful VR outcomes as a function of consumer's race or ethnicity is something that has been well documented in the literature (i.e., Atkins & Wright, 1980; Dziekan & Okacha, 1993; Herbert & Martinez, 1992; Jackson II & Wilson, 2001; Patterson et al., 2000; & Wilson, 2005). The current study is a continuation of work on VR outcomes as a function of consumers' race or ethnicity. The inclusion of people with disabilities and criminal history with mental impairment, while a new extension of previous research, continues the notion that race and ethnicity may continue to play a role in VR outcomes. As race/ethnicity is a static factor, the results may suggest a more dynamic approach in acquiring competitive employment. Brown, Lent, and Knoll (2013), in a recent article on applying SCCT to criminal justice populations, suggested that moving from a content to process focus when working with people with criminal histories will be a more effective strategy. This change in focus allows for more ownership to be taken by the individual, which the authors claim is an essential part of a successful transition from prison to viable work in society. The change in focus also fits well onto the theoretical

process provided by Self Determination Theory, which supports the individual taking responsibility for goal setting and completion.

Research Question Two

Research question two queried if differences existed in the types of services (i.e. Assessment, Diagnosis & Treatment of Impairments, Counseling & Guidance, Job Readiness Training, Job Search Assistance, Job Placement Assistance, and Information and Referral Services) among Blacks, Whites, American Indian/Alaska Native, Asian Americans, Native Hawaiian/Other Pacific Islander and Latino/a with MI. Results of analysis found that the Chi-square test revealed statistically significant differences between the types of services received by race and ethnicity. Specifically, this study found that all services were statistically significant.

The overall count for each of the services provided is as follows: 201 for the combined racial/ethnic group, 1,281 for Whites, and 1,585 for Blacks. Percentages among racial/ethnic groups are provided for each service. For assessment, nearly 12% of the combined racial/ethnic group received the service. For Whites, nearly 46% received assessment services. For Blacks, nearly 43% received assessment services. By comparison, Blacks and Whites received assessment services far more frequently than their racial/ethnic counterparts. For diagnosis and treatment, nearly 32% of the combined racial/ethnic group received the service. For Whites, 43% received diagnosis and treatment. For Blacks, nearly 53% received diagnosis and treatment. For diagnosis and treatment, a gradual percentage increase of 10% was present for the combined racial/ethnic group, Whites, and Blacks respectively. For counseling and guidance, nearly 39% of the combined racial/ethnic group received the service. For Whites, nearly 47% received counseling and guidance. For Blacks,

nearly 38% received counseling and guidance. While the combined racial/ethnic group and Blacks were nearly identical in terms of percentages, Whites received counseling and guidance more than their racial/ethnic counterparts.

For job readiness training, 6% of the combined racial/ethnic group received the service. For Whites, 12% received job readiness training. For Blacks, nearly 12% received the job readiness training. While the percentages across racial/ethnic groups are comparatively low with other services provided, Blacks and Whites received job readiness training more than their racial/ethnic counterparts. For job search assistance, nearly 11% of the combined racial/ethnic group received the service. For Whites, nearly 22% received job search assistance. For Blacks, nearly 26% received job search assistance. The combined racial/ethnic group received job search assistance significantly less than Whites and Blacks. For job placement, nearly 20% of the combined racial/ethnic group received the service. For Whites, nearly 30% received job placement. For Blacks, nearly 37% received job placement. Blacks received job placement services slightly more than their White counterparts, and far more than the combined racial/ethnic group. For information and referral services, 8% of the combined racial/ethnic group received the service. For Whites, nearly 7% received information and referral services. For Blacks, nearly 4% received information and referral services. While the percentages across racial/ethnic groups are comparatively low with other services provided, Whites and the combined racial/ethnic group received information and referral services more than Blacks.

The statistically significant findings for assessment are consistent with prior research (Wheaton & Hertzfeld, 2002). In addition, the current study confirmed former findings of statistical significance for counseling and guidance from previous studies on types of services

impacting successful employment outcomes (Saunders, Leahy, McGlynn, & Estrada-Hernandez, 2006). Further, the current study confirmed previous research that found information and job referrals, job placement, and job search assistance statistically significant services for successful VR employment outcomes (Bolton et al., 2000; Moore, 2002). None of the aforementioned studies focused on people with disabilities and criminal history with mental impairment, which may be a reason for differences in findings. As this is the first empirical analysis on this specific population, it is not safe to posit any reasons as to why the current study's findings confirm results from previous research.

The work of Brown et al. (2013) has specific relevance for the types of services that may be most useful for people with criminal histories in the VR system. The SCCT process traditionally focuses on the capacity to predict types of educational and vocational by individual career seekers. According to Brown et al. (2013), the shift from predictive (i.e., content) to process encourages individuals to direct their own behavior in pursuit of making career choices. In addition, the process focus "is concerned with such questions as how people make choices (rather than what specific choices they make), manage transitions (e.g., from school to work or prison to work), find jobs, maintain job involvement, respond to work related setbacks, and disengage from work" (Brown et al., 2013, p. 1054). It is my suggestion, based on the study findings, SCCT, as posited by Brown et al. (2013), has the capacity to guide which services in the VR system are most effective at guiding the process towards a successful transition from prison to work. For example, future counselors currently being trained in accredited counselor programs could benefit from updated curriculums that include SCCT when serving people with disabilities with criminal histories. In addition, current practitioners would benefit from continuing education opportunities that provide

training on specific aspects of SCCT that directly address aforementioned internal and external barriers faced by people with disabilities and criminal histories.

Research Question Three

Research question queried if differences existed in reasons for unsuccessful closure among Blacks, Whites, American Indian/Alaska Native, Asian Americans, Native Hawaiian/Other Pacific Islander and Latino/as with MI. Previous to collapsing this variable into five categories (unable to locate, refused services, individual in institution, failure to cooperate, and all other reasons [i.e., disability too significant, death, individual in institution, transfer to different agency, transportation not available, extended services not available, other reasons]) all other categories were present. Results of the Chi-square test showed that there were statistically significant differences with client race and ethnicity. The combined category of American Indian/Alaska Native with MI, Asian Americans with MI, and Native Hawaiian/Other Pacific Islander with MI and Latino/as with MI accounted for the largest rate of closure (34.8%) for “unable to locate.” By comparison, Whites were 34.1% and Blacks 33.8 percent. Blacks led rates of closures for “individual in institution,” and “failure to cooperate” at 28.8% and 17.3% respectively. Whites led rates of closures for “refused services” at 11.8% in comparison with their Black and Combined counterparts 7.7% and 10.6% respectively.

Several of these findings are consistent with disparities research focused on differences between racial and ethnic minorities and their White counterparts (LeBlanc & Smart, 2007; Leung, Flowers, Talley, & Sanderson, 2007; Rosenthal et al., 2005; Wilson, Harley, McCormick, Jolivette, & Jackson, 2001). In these studies, the closure rate for racial and ethnic minorities for “failure to cooperate” were consistently reported to be higher than

their White counterparts. There was, however, a difference in the current study as Whites had a higher closure rate for “refused” services than their racial and ethnic counterparts. Of note is a finding from this study that has not been previously researched, the closure rate for people with disabilities and criminal history returning to an institution. Within this category, Blacks far outpaced their White and combined racial and ethnic counterparts in the number of clients returning to an institution prior to completing VR services.

Research Question Four

Research question four queried if demographic characteristics and types of services, would predict employment outcomes among Blacks (non-Latinos), Whites, American Indian/Alaska Natives, Asians, Native Hawaiian/Other Pacific Islanders and Latinos/as with MI. Results of the hierarchical binary regression analysis revealed that among the demographic variables, gender, age, and race/ethnicity were statistically significant variables for successful employment for people with disabilities and criminal history with MI. These findings were comparable to results reported in several studies looking at disparities in VR outcomes on the basis of race and ethnicity (Moore, Feist-Price, & Alston, 2002; Schaller & Yang, 2007). In these studies, the general findings were Whites were more likely to successfully close with employment outcomes than racial or ethnic minorities.

The current study found Whites were 58% less likely to obtain a successful employment outcome than the combined racial and ethnic comparison group. Blacks were 73% less likely to obtain a successful employment than the combined racial and ethnic comparison group. While these numbers are far different than previous research showing that Whites are employed at higher rates than their racial and ethnic counterparts, demographic information may offer some insight into the reversal in the current study. Nearly 58% of this

population comes from two states, Georgia and South Carolina, which traditionally offer opportunities for manual labor and construction jobs. Whitfield (2008) found that manual labor, construction, and food service jobs were the highest job categories for people with disabilities and criminal history in the RSA 911 database. One theory for the current findings is that these job categories were more accessible, or offered to the combine racial and ethnic category (i.e. Latino/as, Asian, etc.) in the south versus their White and Black counterparts.

Several barriers to employment not explored in the current study may contribute to the differences in rates of achieving successful employment as well. Harris and Wade (2010) report housing, familial support, employers' attitudes and biases, and a lack of education and training for people with disabilities and criminal history with MI as unique barriers facing this population. It could be that the intersection of criminal history and racial/ethnic minority status in conjunction with these barriers differentially impacts the likelihood of gaining successful employment. Of course, this speculative offering is in need of further study.

Two other demographic variables, gender/sex (men and women) and age (18-70) were found to be statistically significant predictors of employment outcomes for people with disabilities and criminal history with mental impairment in FY 2010. Results of the hierarchical binary regression analysis revealed that gender was a statistically significant predictor of employment indicating men were nearly twice as likely to obtain successful employment than women. Often, women with criminal histories face a higher level of stigma than men (Masters, 2004). The stigma is often around the public perception that women have abandoned their families while incarcerated, a burden not often placed on men with criminal histories. It is possible that along with general gender bias in employment, those women are also impacted by this additional stigma. This result differs slightly from previous research on

gender rates and acceptance into VR programs (Chan et al., 2005) that found no statistical difference between genders.

For age, the odds value was 1.03, meaning that the younger an individual was, the more likely he/she was to obtain successful employment. These results are consistent with other research that found younger individuals have better employment outcomes than their older counterparts (Beck et al., 1989; Blackwell, Leierer, Haupt, Kapitsis, & Wolfson, 2004; Bose et al., 1998; Lustig, Strauser, Weems, Donnell, & Smith, 2003; Saxon et al., 1983; Vander Kolk & Vander Kolk, 1990). This finding may also make sense from a criminal justice perspective. With the age range from age 18 to 70, it makes sense that older people with disabilities and criminal history with MI would have a harder time finding competitive employment than their younger counterparts. While the current study did not have access to the length of the prison sentences for this population, the higher the number of years spent incarcerated greatly decreases the opportunities to return to gainful employment (Petersilia, 2003).

For VR service variables, job readiness, job placement, and diagnosis were statistically significant, positive predictors of successful employment, meaning that an increase in these services improved the odds of closing successfully with competitive employment. Results of this study are similar to earlier studies of successful VR outcomes among consumers with other disabilities. Both Moore (2002) and Bolton et al. (2000) reported on the statistical significance of job placement. The current study found job placement to be a statistically significant, positive predictor of employment, indicating job placement increased the odds of reaching a successful employment outcome by nearly 3.5 times for those who received the service versus those who did not receive the service. This

represents an important clue that points to the relative importance of providing job placement assistance to people with disabilities and criminal history with MI. As stated earlier, additional barriers exist for individuals leaving correctional institutions that may not exist for the general public, making job placement a potentially essential part of working with people with disabilities and criminal history with MI.

Job readiness was also found to be a statistically significant predictor of employment. This service variable was selected specifically for this population due to the unique barriers that people with disabilities and criminal history face. For example, the stigma associated with criminal history, lack of social skills, and a limited experience with workplace cultures are all reported to be significant barriers people with disabilities and criminal history (Harris & Wade, 2009). As a result, assistance with job readiness may be a critical service for people with disabilities and criminal history with MI when returning to the community, and workforce. While job readiness assistance was thought to be an important service for people with disabilities and criminal history with MI, the current study found job readiness to be that participants who received this service were nearly 50% less likely to obtain successful employment than those who did not receive the service. This finding may point to the need to take into account the particular needs of people with disabilities and criminal history when providing job readiness services. Rakis (2005) reports that one of the key ingredients to individuals with criminal histories returning to work is an ability to successfully explain their past while convincing potential employers that they are a safe candidate for employment. In discussions with several rehabilitation counselors, the author found that this was not a key feature to job readiness assistance when serving people with disabilities and criminal history.

Limitations

As with all research there are limitations that need to be taken into consideration. One limitation of this study is the lack of specificity with regard to certain variables such as significant disability, reasons for and length of time in the criminal justice system, and subsequent exit from VR services. A little over half of the population (56%) was eliminated from the analysis due to five reasons for closures (unable to locate, refused services, individual in institution, failure to cooperate, and all other closure reasons). The RSA-911 codebook does not offer any record of the type of offense or the length of time in prison or jail settings, which could have an effect on the ability to obtain competitive employment (Western, 2007). As a result, the population had to be reduced from 3,067 to 1,347 in order to reduce selection bias.

Generalizability is a second limitation, This study used archival data from the FY 2010 RSA-911 database and used an ex-post facto design. Causality, therefore, cannot be inferred from these results. Generalizability is also limited given that nearly half (58%) of the data were represented from two states. In fact, the majority of states and U.S. territories (n = 30) had only 1% or less of people with disabilities and criminal history with mental impairment. Results are restricted to one disability type (mental impairment) and may not be appropriate to people with other disabilities who have been incarcerated who sought VR services.

As previously mentioned, data used in this study was extracted from the FY 2010 RSA-911 national database. The information found in this database is entered directly by VR counselors at each state-federal VR agency across the U.S. and its territories for each case that is open and/or closed. Therefore, the data are susceptible to human error. These

errors can include data input errors as well as errors with properly identifying a consumer's race/ethnicity, particularly for those who do not provide this type of information (RSA, 2010).

Implications for Rehabilitation Counselors

Several recommendations for state-federal vocational rehabilitation counselors can be made based on the results from this study. First, services that were found to be the most statistically significant predictors of successful employment were job readiness assistance, job placement assistance, and diagnosis/treatment. Although the RSA-911 data do not provide details about job placement procedures that VR counselors use as part of service delivery, an earlier article by Fawber and Wachter (1987) provides five suggestions to improve employment outcomes. Their suggestions include selecting placements that are consistent with consumers' abilities, strengths, interests, and limitations; conducting a job analysis (i.e., identifying attributes and tasks needed to perform a particular job); educating employers and co-workers of consumers' strengths and limitations (if consumers choose to disclose this information) to prevent any misunderstandings of consumers' behaviors; acting as the liaison between employers and the agency on behalf of consumers' best interests and abilities; and encouraging the support from consumers' families to become an essential part of the VR process.

As in previous research, race and ethnicity were found to be a significant factor in determining positive employment outcomes in the state-federal VR system (LeBlanc & Smart, 2007; Leung, Flowers, Talley, & Sanderson, 2007; Rosenthal et al., 2005; Wilson, Harley, McCormick, Jolivette, & Jackson, 2001). Rehabilitation counselors may benefit from continued efforts to broaden their multicultural competency when working with consumers

who are racially or ethnically different from them. While race and ethnicity is a factor, it may also be relevant for rehabilitation counselors to focus on the intersectional impact of consumers with criminal history, mental impairment, and racial or ethnic minority status.

Implications for Future Research

One of the difficulties in making assumptions about the impact of a given disability and VR outcomes is that there is a vague explanation for the types of mental impairment. In particular, the designation of psychosocial impairment as interpersonal and behavioral impairments and difficulty coping provides very little insight into the actual issues facing people with disabilities and criminal history with mental impairment. People with criminal histories already face the stigma of being antisocial (Masters, 2004), so psychosocial impairment may be a default category rather than an accurate description of the mental impairment of this population. A first recommendation for future research is to make a proposal to RSA to create a more specific variable in their case management system that allows the rehabilitation counselor the ability to separate significant disability from actual psychosocial barriers facing people with disabilities and criminal history. Specifically, this variable should reflect challenges facing incarcerated populations such as low education, low socioeconomic status, and release to crime ridden and unsafe environments (Harris & Wade, 2010). Therefore, having this information could expand upon established trends of racial/ethnic disparities among state-federal VR consumers (Rosenthal et al., 2005).

This study represents a potentially impactful shift in the way counselors work with people with disabilities and criminal history with MI. In the current social climate in the United States where mass acts of violence (e.g. U.S. Navy Yard shooting, Newtown, CT school shooting) are being linked with mental impairment, it is especially important to

reverse the public stigma through the reintegration of people with disabilities and criminal history into communities through successful employment. Rehabilitation counseling can be at the forefront of this reversal of negative perception for people with disabilities and criminal history by embracing the challenges associated with having a criminal history, mental impairment, and being a racial or ethnic minority. The current study can provide an important empirical basis on which to bolster rehabilitation counselor's efforts when working with this population.

The second recommendation is to use relevant career theory and statistically significant predictors found to influence employment outcomes in this study as a starting place to bolster efforts in successfully employing people with disabilities and criminal history with MI. Predictors like diagnosis and treatment and job placement assistance had a significant relationship with employment outcomes. When each of these services was provided to this population, clients were three times more likely to obtain successful employment. Conversely, job readiness was negative predictors of employment, which may suggest that robust changes are needed in service delivery for people with disabilities and criminal history with MI. Rehabilitation counselors have a significant ability to be a positive influence on people with disabilities and criminal history with MI due to the range and scope of services that are available in state-federal VR. While the breadth of services is important in state-federal VR, the current study suggest that a more targeted approach on job placement assistance, diagnosis and treatment, and a revised job readiness service may increase the likelihood of successful employment for people with disabilities and criminal history with MI.

The potential for the influence of Social Cognitive Career Theory (Brown et al., 2013) and Self-Determination Theory (Ryan & Deci, 2008) on the transition from prison to work should not be underestimated. The intersection of race/ethnicity, criminal history, and mental impairment erect specific and unique barriers to the acquisition of competitive employment. When counselors apply these theories to people with criminal histories and mental impairment, it could be seen as a form of self-empowerment for the population. The process-focus on self determination and self decision-making may serve to break the pattern of negative internalization experienced by many offenders when trying to transition from incarceration to employment in community.

The current study has largely been motivated by a desire to understand people with disabilities and criminal history with MI in the VR system beyond demographic information. Although demographic information is essential, and certainly expanded upon here, it has been the aim of this study to provide the counseling field with empirically based research that could make an impact for both practitioners and researchers interested in improving service to people with disabilities and criminal history. Future research in this area will continue to focus on services that are appropriate for people with disabilities and criminal history with MI and likely to increase the likelihood of successful employment. Further research may also explore why certain regions of the country (e.g. Southeastern U.S.) have been more successful at servicing people with disabilities and criminal history with MI. Future research will also benefit from a focus on reasons for closure, in particular how rehabilitation counseling can help reduce the number returning to a correctional institution. This is particularly important because it disproportionality impacts racial and ethnic minorities. The current study has attempted to advance knowledge on the salient variables (demographic and

case service) that predict outcomes for successful employment for people with disabilities and criminal history with MI. It is my hope that researchers will continue to expand upon research in this area for the betterment of those who experience tripartite stigma; disability, criminal history, and race on the road to bringing employment disparities for ex-offenders to an end.

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EDUCATION

Ph.D., Counselor Education, Penn State University, December 2013

M. Ed., Counselor Education (Rehabilitation Counseling), Penn State University, May 2010

M. Div., Vanderbilt University Divinity School, May 2008

B.A., Psychology, University of Missouri-Columbia, December 1999

REFEREED PUBLICATIONS

Wilson, K. B., Gines, J.E., Williams-Gary, K., & Brown, S.M. (In Press). Diversity and multiculturalism among personnel: Hiring, staffing, and supervising and emerging workforce. In Flowers, C., Robertson, S., Soldner, J. (Eds.) *Counseling Supervision and Administrative Practices in Allied Health Professions*. Aspen Professional Services

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TEACHING EXPERIENCE

Client Assessment in Rehabilitation and Human Services (The Pennsylvania State University), Fall 2012, Spring 2013.

Introduction to Disability Studies: Culture and Disability (The Pennsylvania State University), Fall 2012, Spring 2013.

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Foundations of Multicultural Counseling and Development (The Pennsylvania State University), Summers 2012, 2013.