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LATINO/AS WITH DISABILITIES: DO GENDER AND RACE INFLUENCE  
VOCATIONAL REHABILITATION?

A Thesis in Counselor Education

by

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## ABSTRACT

The purpose of this paper is to examine the differences of VR acceptance rates when comparing race and gender within the Latino ethnicity. Disparities due to race exist in the Latino populations, some of which are consistent with racial disparities in the non-Latino population. Research on racial disparities and gender disparities in state Vocational rehabilitation (VR) has shown differences in the access to services and the outcomes of those services. Gender research has shown that women with disabilities tend to be accepted for services more frequently if their disabilities are less than severe. Research also shows that although women are accepted more frequently than men with disabilities, their cases are closed more as homemakers and less consistently with their goals than are men's cases and more often in a non-goal-related status of homemaker (Danek & Lawrence, 1985). Findings suggested that while no main effect for gender or race existed in VR acceptance rates of Latino/as with disabilities in the 2007 fiscal year, the likelihoods of interaction effects (on VR acceptance rates) between gender and race, gender and severity of disability, race and severity of disability, and race and primary source of support were highly significant.

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## **Chapter 1**

### **Introduction and Definitions**

The purpose of this paper is to examine the differences in vocational rehabilitation (VR) acceptance rates by race and gender within the Latino ethnicity.

Vocational rehabilitation is the component of the rehabilitation process that assists individuals with disabilities in making an adjustment or readjustment to work.

(Dziekan & Okocha, 1993, pg. 183)

Disparities due to race exist in Latino populations, some of which are consistent with racial disparities in the non-Latino population (e.g., African Americans) (Logan, 2003; Wilson & Senices, 2005). Research on racial disparities and gender disparities in state VR has shown differences in the access to services and the outcomes of those services. Additionally, gender research has shown that women with disabilities tend to be accepted more for VR services if their disabilities are less significant than disabilities that are severe. Research also shows that although women are accepted more frequently than men with disabilities, their cases are closed less consistently with their goals than are men's cases and more often in a non-goal-related status of homemaker (Danek & Lawrence, 1985).

Research on race has usually shown that Black non-Latino/as with disabilities (African Americans) are less likely than White non-Latino/as (European Americans) to have access to VR services and to have achieved effective employment outcomes

(Wilson, 2005). Very little research has been conducted on race and gender within the Latino ethnicity and the interaction of these variables in relation to VR outcomes.

## **Definitions**

### **Race**

The terms ethnicity and race may sometimes be used interchangeably but they mean different things (U.S. Bureau of Census, 2001; Wilson, 2005). This article will refer to race as biological and physical traits that depict certain people (Wilson, 2005). Sue et al. (1998) defines race as, “based on either a constellation of biological and physical traits or internal/external social perspective” (p. 8). Please note that some terms are used in this study are based on how they are used in the research that is being cited but refer to the same populations: “Black” refers to “African American” and “European American” and “Anglo” refer to “White.”

### **Ethnicity**

Ethnicity comes from the word, “ethnic,” (Merriam-Webster, 2010). The author of this study will refer to the Merriam-Webster (2010) definition 2a of the word “ethnic”:

2 a : of or relating to large groups of people classed according to common racial, national, tribal, religious, linguistic, or cultural origin or background <ethnic minorities> <ethnic [enclaves](#)> b : being a member of a specified ethnic group <an ethnic German> c : of, relating to, or characteristic of ethnics <ethnic neighborhoods> <ethnic foods>. (Merriam-Webster, 2010, online)

### **Latino/a and Hispanic**

The terms Hispanic and Latino are often used to describe the same populations in America, people from Latin descent. The term “Hispanic” is being used less and less due to the inferences carried from historic Spanish conquest (Quinones-Mayo, Wilson, & McGuire, 2000). The War on Mexico (1846-1848) inflicted oppression and adversity on many Latin Americans, and the term Hispanic contains “spani” which is residual of Spain and the oppressive treatment that Latin Americans faced. Latinos originate from 22 different countries. Some of these Latinos have different phenotypes from each other and even speak different languages. The term Latino accurately refers to more people than Hispanic, which is a term imposed on people who are not from Spanish-speaking countries. Aside from citing specific data where Latinos are called Hispanics, this author will refrain from using the term “Hispanic” for the purpose of avoiding oppressive language. The U.S. Census categorizes the Hispanic population as an ethnicity and not a race (Rawlings & Saluter, 1994).

### **Colorism**

Definitions of race often intend to classify groups according to similarities of biological and physical characteristics (Cokely & Awad, 2008), but the model Colorism (Wilson & Senices, 2010) asserts that discriminatory practices categorize people inside the same race based on different levels or amounts of biological and physical traits. Colorism’s main characteristic is separating people according to their gradation of skin color. This study will be based on the theoretical model of Colorism, a form of prejudice based on the lightness or darkness of skin (Wilson & Senices, 2009). Within the confines of this study race is defined as Black (Latino) and White (Latino), and gender is defined as male and female.

## **Disability**

Defining disability can be different depending on the context and the state and/or federal organization. Since the enactment of the Rehabilitation Act of 1973, disability has generally been referred to as a physical or mental impairment that limits “major life activities.” However, the definition of disability is complex. The Office of Disability Employment website (ODEP, 2010) refers to disability in two different ways. When nondiscrimination laws are of concern, such as the Americans with Disabilities Act, Section 503 of the Rehabilitation Act of 1973, and Section 188 of the Workforce Investment Act, having a disability is defined as having a mental or physical impairment which limits “major life activities,” having a record of said impairment, or being regarded by another as having an impairment (ODEP, 2010). In the field of vocational rehabilitation (VR), applicants are determined eligible for services if the physical or mental impairment substantially interferes with their ability to gain and retain employment.

There is no special characteristic persons with a disability have that differentiates them, other than their disability. Disability can happen to anyone. One can be born with a disability (congenital) or, acquire the disability (as a result of illness, injury, or genetics later in life). While no personal characteristic prevents a person from having a disability, there are portions of the population in America who are more likely to have severe disabilities. African Americans (Atkins & Wright, 1980; Bowe, 1984; NIDRR, 1992; Smart & Smart, 1997) and females (Danek & Lawrence, 1985) are more likely to have severe disabilities than European Americans and men.

The higher prevalence of disability among underrepresented populations is attributed to five influential variables (Smart & Smart, 1997):

- Low income and poverty
- Employment in physically dangerous jobs
- Lack of health insurance coverage
- Low educational attainment
- Faulty and inaccurate testing and assessment.

### **Vocational Rehabilitation**

People with disabilities apply to the Office of Vocational Rehabilitation (OVR), an agency of each state's Department of Labor and Industry, for vocational rehabilitation services. The application is reviewed by a rehabilitation counselor and the applicant is either accepted or not accepted based on the severity and comprehensiveness of their limitations. Upon acceptance for VR services, people with disabilities receive counseling, education, and social and technical skills training to facilitate development of career goals. Partnerships with community businesses are also created to break down stereotypes and stigma of people with disabilities in the workplace and to build up understanding and utilization of the people with disabilities' skills. Effective accommodations are identified and provided to limit the handicaps that people with disabilities encounter due to their disabilities and perceptions of their disabilities. The overall mission of OVR is to increase the quality of life for people with disabilities and level the playing field in the competitive workforce. Also, OVR assists in helping people with disabilities acquire and/or maintain employment.

**VR counseling.** Rehabilitation counseling consists of many different avenues that serve the VR customer (Pennsylvania Office of Vocational Rehabilitation Commonwealth of Pennsylvania Department of Labor and Industry, 2000).

Dziekan and Okocha (1993) summarize the role of the counseling in the process of VR:

Vocational rehabilitation counselors in state vocational rehabilitation agencies assess need for services, determine eligibility, and assist eligible clients to achieve vocational adjustment and readjustment. (p. 183)

Rehabilitation counseling consists of many different avenues that serve the VR customer (Pennsylvania Office of Vocational Rehabilitation Commonwealth of Pennsylvania Department of Labor and Industry, 2000).

## **Chapter 2**

### **Literature Review**

#### **Latino/as in the United States**

The Latino population in the United States is growing at high rates and is now the largest ethnic population in the United States (Passel & Cohn, 2008). In the United States there are 18 states that currently have areas whose populations 25% - 100% Hispanic (U.S. Census Bureau, 2006). The shift in demographic trends began in the southwest. The Latino population is still the highest concentration in the southwest but now several eastern states are highly populated by Latino people also. According to Passel and Cohn (2008), projections of growth from 2005 to 2050 in the U.S. population indicate an increase in the Latino population, from 14% in 2005 to 29% in 2050. The Latino population is expected to continue as the fastest growing population in the United States (U.S. Census Bureau, 2008a). Keeping the immigration rate and fertility rates constant and allowing for specific growth in life expectancy, the Latino population in America is expected to have doubled its 1990 population by 2015 and quadruple its 1990 population by 2050 (the turn of the century). According to the population projection, from 2010 to 2030, Latinos will constitute 45% of the nation's population growth, and 60% from 2030 to 2050. Currently the largest ethnicity in the United States and growing, the need for an understanding of service accessibility to Latino people is of surmountable importance.

Population projections predict that by the year 2050, minority individuals will make up 50% of the population (U.S. Census Bureau, 2008a). According to Mahalik,

Worthington, and Crump (1999), therapists in America hold different worldviews than their racial minority clients, which may cause challenges when combined with the expected changes in client ethnicity. These findings include African American therapists, White therapists, Latino therapists, and Asian/Asian American therapists. This is not to say the counselors across all ethnicities and races all hold the same worldviews, but they all hold worldviews that are different from racial minority (people of color) clients nonetheless, even therapists who are in a racial minority. This is a finding that demands attention in counseling professions as the population of people of color grows.

With evidence indicating that minorities having more difficulty accessing VR services than non-minorities (Wilson, 1999; Wilson, Harley, McCormick, Jolivette, & Jackson, 2001; Wilson, Jackson, & Doughty, 1999), this poses a major problem in access to services for a lot of people in America. Most research on race has left Latinos out of observation (Wilson & Senices, 2005) because they are classified as part of an ethnicity as opposed to a race. Research indicates that minorities have more difficulty accessing VR services than European Americans; however, Latino/as have been left out of the studies.

### **Phenotype/Skin Color**

The last time the United States Census data was collected, Latino/as (referred to as Hispanics in the data categorization) and Non-Latinos were asked to select their race as Black or White (Schwanke & Smith, 2004). The majority of the Latinos chose neither White nor Black, but wrote in their own racial classification: “Hispanic” (Logan, 2003),



which indicated a preference for racial and ethnic identification of “Hispanic – Hispanic.”

A recent breakdown of how Latino/as identify racially is given by the U.S. Census Bureau. Data from the 2008 American Community Survey 1-Year Estimates show that 62.4% of Latinos identify as White alone; 30.5% identify as “some other race alone”; 3.9% identify as “two or more races”; 1.9% “Black or African American alone”; .96% “American Indian and Alaska Native alone”; .37% “Asian alone”; and .05% “Native Hawaiian and Other Pacific Islander alone.”

Census data showed that Black Latinos tend to live in the same neighborhoods as Black Non-Latinos as opposed to those of White or Hispanic Latino/as (Hispanic-Hispanics). Black Latinos also shared some characteristics with Black Non-Latinos such as lower economic performance, lower median household income, higher unemployment, and higher poverty rate (Logan, 2003).

### **Colorism**

As published research continues to point out that discrimination within race is based on the lightness and/or the darkness of the color/hue of one’s skin (Harrison & Thomas, 2009), evidence of the bias based on color gradation increases. Color has been a major predictor of disparities in selection for academic privileges and work delegation for example across populations, across nations, and throughout history (Lancaster, 1999). Montavlo (2009) described colorism, a theoretically-based model which demonstrates how people have kept power as a privilege relative to the lightness of skin, and withheld privilege and power from people with darker skin, even in their own families. Colorism is evident in many different cultures, as illustrated among the Dominican, Puerto Rican,

and Nicaraguan populations as illustrated by Wilson and Senices (2008), which fall into the Latino categorization of ethnicity, and in the United States, as exemplified by the disparities among White and Black Americans (Staveteig & Wigton, 2000).

The inner workings of racism may be traced to a more subtle and detailed discrimination based on gradation of skin color / phenotypic (i.e., color/hue) features. Research has shown that people are treated differently according to not just their race, but also their phenotypical features (Hunter, 2008), including lightness and darkness of skin tone (Harrison & Thomas, 2009; Hughes & Hertel, 1990; Lancaster, 2009). Because a large percentage of Latinos in the U.S. Census racially identify as “some other race alone,” one questions whether race is the best way to categorize groups of people. Studies have consistently found that when it comes to phenotype and skin color, the darker the skin color or more Afro-centric the physical features of a person (Hunter, 2008), the more difficulty one has in securing equal opportunity employment and human services. While each racial classification historically has a phenotype and skin color that is associated with a corresponding ethnicity, there are many different skin color/phenotypic features and types. Skin color/phenotypic features are directly related to the opportunities one is afforded regardless of a person’s race or ethnicity or the country in which one resides (Hunter, 2008; Hughes & Hertel, 1990). Colorism is an international and national problem.

## **Colorism Around the Globe**

In various countries and areas around the globe, skin color gradation is and has been directly related to privileges and opportunities provided to people. Although many disparities exist between White and Black Americans, racial disparities are not limited to whether a person in the United States is White or Black (Rosenbaum, 1996). These White-Black disparities have been the easiest to quantify and identify for research purposes because they are designated as racial statuses by the United States Census (Logan, 2003), which is the government-appointed agency responsible for assessing, cataloging, and reporting demographic data in the United States. Outside of the United States, however, disparities based on phenotype and skin color exist in many forms (Lancaster 1999, Bonilla-Silva, 2000). Bonilla-Silva (2000) discusses an “old racism” centered around the categorization of people by biological features. In family settings, discrimination based on skin color/phenotypic features occurs (Lancaster, 1999). In Nicaragua, for example, children who have lighter colored skin are chosen to receive education and have professions. Children with darker colored skin are more likely to be taken out of school to help with needs around the house. Darker skinned children, sometimes referred to as “Niños Negros” are ushered to manual labor. The lighter skinned children are often shown more affectionate love and thought of as the favorite. This situation of treating the lighter skinned child as the favorite can facilitate families encouraging this child to succeed in education and professional careers (Lancaster, 1999).

## **Colorism among Latino/as in America**

Because there are significant racial disparities among Latino/as in other countries (Wilson & Senices, 2008; Lancaster, 1999) there is reason to suspect that racial disparities exist among Latinos in America. More reasons exist because Latinos in America have more demographic similarities with non-Latinos of similar racial statuses than with Latino/as of different racial statuses (Logan, 2003), which could be similarly exemplified by racial disparities existing among Latinos in America. In terms of employment, Latinos with darker skin have been filtered into less desirable jobs and subsequently lower SES than people with lighter skin color gradations (Tezler & Vazquez, 2009).

When it comes to cataloguing skin-color-based civil rights infringements, the current race-only classification system restricts accurate reporting (Logan, 2003). This problem of overlooking disparities because of a lack of an accurate categorical classification of race and phenotype is especially evident in the growing population of Latinos in America.

## **Gender Discrimination**

### **Gender and Employment**

Along with racial discrimination, sexism results in inequalities in rank, power, privilege, and appreciation; such a problem imposes special difficulties for women of color, who endure stereotypes of a demeaning nature such as sexpot (Latinas) and bitch

(African American women) (Harley et al., 2002). Sexism in the workplace is a problem that, although decreasing in prevalence, still unfairly affects women, the gender minorities in the workplace. In US society, men are evaluated objectively, for example, according to what they produce, while women are evaluated subjectively, meaning that their production is more up to perception and interpretation (MacKinnon 1989). Harley et al. (2002) wrote about sexism in the workplace and attributed its evolution to corporate capitalism. Although Harley et al. argued that sexism in the workplace cannot be changed, McTague, Stainback, and Tomaskovic-Devey (2009) examined EEOC reports of employment in the United States from the years 1966 to 2000 and concluded that over a span of 34 years, gender segregation had dissipated significantly. Although some research based on reports of government employment positions shows that gender segregation is on the decline, the point is not to be misconstrued to suggest that sexism is equally dissipating. Sexism and gender segregation are not the same thing, and sexism is still a problem in need of attention.

### **Gender and Disabilities**

Understanding the relationship between disability and gender is important in VR counseling when evaluating potential for work performance. Men and women with disabilities have needs that are specific to their gender. In 1981 Fine and Asch conducted a pivotal analysis of what it means to be a disabled woman in America. Mental health practitioners need to understand the variety and scope of problems regularly encountered by women with disabilities. Recognition of the negative effects of unsupportive social

environments, unemployment, and a weak self-image, accompanied by a sense of rejection, is critical in assessing the needs of disabled women (Fine & Asch, 1981).

### **Race and Gender Interactions**

Some theorists suggest that when the two minority statuses of race (not-White) and gender (female) are paired, an interaction effect occurs, resulting in more discrimination than if a woman of color had only one minority status, such as being a non-White male or being a White female (Cortina, 2008; Levin, Sinclair, Veniegas, & Taylor, 2002). In 2008 Cortina discussed how incivility and discrimination based on gender and race are prevalent in subtle ways in the workforce. The subject of women enduring dual discrimination was studied by Levin et al. (2002) when they surveyed African American and Latina college students to evaluate their perceptions of the existence of more discrimination for women of color than for men of color. Levin et al. (2002) compared two hypotheses in their research, the “ethnic-prominence hypothesis” and the “double-jeopardy hypothesis.” The double-jeopardy hypothesis theorizes that women of color will encounter more oppression and marginalization than European American women or men of color, because women of color have two factors related to discrimination. The ethnic-prominence hypothesis postulates that although women of color have two discrimination-related factors, color and female-status, they will not experience more discrimination than men of color because discrimination due to race is perceived to be more prominent than discrimination due to gender. Levin et al. (2002) found that women of color did not perceive themselves as experiencing more discrimination than men of color, thus providing support for the ethnic-prominence

hypothesis. Harrison and Thomas (2009) studied the effects of race and gender and found no significant difference in the treatment of Black males compared to Black females. The findings in the study also support the ethnic-prominence hypothesis (Levin et al, 2002). Some studies suggest that interaction effects between race and gender to not occur.

### **VR Research**

Herbert and Cheatham (1988) suggested that bias inside rehabilitation service influences the types and amounts of VR services received. Butcher and Scofield (1984) helped lay the foundation when they reported that unchangeable and questionably-supported impressions constructed by counselors at the beginning of the VR counselor/client service relationship endure even when presented with evidence contrary to their initial impressions. VR research has served as a base to objectively observe patterns of service acceptance and ineligibility as they relate to specific demographic factors of applicants. When studying colorism, research on the acceptance and ineligibility rates of Black and White Latino/a males and females provides a large and comprehensive sample population of applicants to observe.

### **Race and Colorism in VR**

Research has suggested that Colorism exists in state VR. Data regarding racial disparities in VR have indicated that the darker the skin color/phenotypic features of the consumer, the less likely the person is to be accepted for services (Atkins & Wright, 1980; Herbert & Martinez, 1992, Dziekan & Okocha, 1993; Feist-Price, 1995, Spitznagel

& Saxon, 1995; Wilson, 2000) and successfully rehabilitated into competitive work (Atkins & Wright, 1980; Herbert & Martinez, 1992; Dziekan & Okocha, 1993; Wilson, 2000; Feist-Price, 1995; Morgan & O'Connell, 1987 as cited by Capella, 2005; Wilson, 2002).

Research evaluating race inequalities in VR began with Atkins and Wright in 1980, who conducted a national comprehensive analysis of the rates of the VR applicants and the rates at which VR applicants were accepted or rejected for rehabilitation services. Results showed that African Americans with disabilities were not accepted as much as White people with disabilities. Studies continued to investigate race and VR acceptance rates. Dziekan and Okocha (1993) examined accessibility of VR services among minorities (African Americans, Hispanics, Native Americans, and Asian Americans) with disabilities and European Americans with disabilities. Acceptance rates between White people with disabilities were 60% compared to people of color with disabilities, which was 50%. The data was from four years, 1985-1989, and also found that among minorities, Native Americans with disabilities had the highest acceptance rates. In 1995, Feist-Price also found that African Americans with disabilities were accepted less for VR than European Americans with disabilities. VR acceptance rates were compared according to race and showed that in VR, disparities exist for skin color/phenotypic features.

Research began to produce results contradictory to the Atkins and Wright, Dziekan and Okocha, and Feist-Price studies which originally identified lower acceptance rates for African Americans. Wilson (1999) compared VR acceptance rates of African Americans with disabilities and European Americans with disabilities according



to race in a large Midwestern state. A chi-square test of independence was used to analyze an all-inclusive sample of applicants to a state-VR agency in the year 1995. "All-inclusive" means that every applicant for that year was included in the sample. Though results indicated no significant difference in the VR acceptance rates of African Americans with disabilities and European Americans with disabilities, the author pointed out significant discrepancies between results of studies on VR acceptance rates. Wilson suggested that a nation-wide study or studies of VR acceptance rates in other states may help to identify areas of differential VR acceptance.

VR research showed that racial disparities don't always exist among acceptance and services (Wilson et al., 2002). Some research has found that African Americans with disabilities have the same level of eligibility for services as European Americans with disabilities (Peterson, 1996; Wheaton, 1995; Wilson, 1999). No difference in VR acceptance rates based on race was found in a study conducted by Wheaton (1995), who used a symmetrical hypothesis of homogeneity of proportions. Wheaton used a different sampling procedure than the previous studies, and found no difference in VR acceptance based on race. A subsequent analysis by Peterson (1996) supported Wheaton's findings that no statistical difference existed between VR acceptance rates of African Americans with disabilities and European Americans with disabilities. Peterson also used a methodology which was different than what had been used before; within-group differences were analyzed based on observed and expected percentages as opposed to the between group differences that were commonly compared in the prior research. Peterson's results stated that both African Americans with disabilities and European Americans with disabilities were overrepresented compared to the rest of the population

of VR applicants. Wilson (1999) analyzed VR acceptance rates based on race and results implied that African Americans with disabilities and European Americans with disabilities were experiencing the same level of ineligibility from VR application.

Wilson (2000) expanded the variables that had been looked at in most of the previous research and looked at VR acceptance while comparing racial status. He added the variables education, work status, and source of support at application to the list of independent variables. Binary logistic regression was used along with the stepwise method of data entry. Significant interactions of the variables were identified among race, primary source of support at application, and the earnings level of the primary source of support. European Americans with disabilities were accepted for service more than African Americans with disabilities. The results were consistent with earlier findings (Atkins & Wright, 1980; Feist-Price, 1995; Herbert & Martinez, 1992) that racial disparities exist in VR acceptance rates, even when multivariate analysis was utilized instead of the univariate analysis that had previously been in use. Conclusions continued to suggest that people with darker skin color/phenotypic features such as Latinos and African Americans are accepted less frequently for VR services than are European Americans. Shortly thereafter, Wilson, Harley, and Alston (2001) conducted a study on VR acceptance rates and race like the study conducted by Wilson (1999) with the exception that chi-square analysis was implemented. Results were like those of Atkins and Wright (1980), Feist-Price (1995), Herbert and Martinez (1992), and Wilson (2000), showing higher rates of VR acceptance for European Americans with disabilities than for African Americans with disabilities. In 2002 Wilson, Alston, Harley, and Mitchell used binary logistic regression to analyze VR acceptance rates based on race, gender,

education, and primary source of support at application. Results found that African Americans were accepted more for VR services than European Americans. No effect was found to exist for gender. Primary source of support was suggested to be responsible for the heightened and unusual acceptance rates for African Americans compared to European Americans. Alongside the findings from Wilson (2000) and Wilson et al. (2002), the results from Wilson et al. (2001) and Wilson (2002) were incongruent with the findings of Wilson (1999), Wheaton (1995), and Peterson (1996).

National VR research based on race and ethnicity continued after Atkins and Wright (1980) to Capella (2002), Wilson (2002), and Wilson et al. (2002). Wilson (2002) examined national VR acceptance rates based on race and ethnicity as an interchangeable term and found a significant difference in the rates of VR acceptance when comparing African Americans with disabilities to European Americans with disabilities. Wilson et al. (2002) conducted a similar study but also added the variables gender, education, work status at application, and primary source of support at application to race for their group of possible predictors for VR acceptance rates. No significant difference in gender was identified. The order of VR acceptance rates ordered from high to low starting with African Americans with disabilities, who had the most frequent VR acceptance rates. Native Americans with disabilities were accepted the most after to African Americans with disabilities. Third were European Americans with disabilities, who were followed by Asian or Pacific Islanders with disabilities. These findings were not supportive of colorism theory. Significance was also found in level of education; the higher the education, the less likely one was to be accepted for VR services as opposed to people with disabilities who had lower education. Lastly, primary source of support at

application was a variable of significance. Results indicated that the more financial resources a person was receiving, the less likelihood of acceptance for VR services (Wilson et al., 2002).

Research on ethnicity disparities in VR is limited (Wilson & Senices, 2005). Ethnicity was specifically addressed in research conducted by Herbert and Martinez (1992) in terms of VR acceptance rates and quality of closures as each applies to Black and White Latinos and non-Latinos. Evidence showed that not only did racial disparities exist in that European Americans received more VR services and were accepted more frequently than African Americans, but that non-Latinos were accepted for services more often than Latinos are. Peterson (1996) took another look at ethnicity alongside race comparing the percentages of the VR application population to the general US population. Though racial discrepancies among VR acceptance rates and successful closure were not found, ethnic disparities did exist in that Latinos were accepted less than non-Latinos. Ethnic disparities were identified once again by Wilson and Senices in 2005 when they compared VR acceptance rates by ethnicity (Latino vs. non-Latino) and found that Latino people were accepted at higher rates than non-Latinos. One confounding variable in that study was race; the majority of people who registered as non-Latino were Black, and the majority of people who registered as Latino were White.

Where research on state VR services and demographic cultural variables is limited, that which does exist points to incongruencies in the following: acceptance of, services provided to, closure rates of, and rehabilitation outcomes for people of color with disabilities compared to White people with disabilities (Atkins & Wright, 1980; Herbert & Martinez, 1992; Dziekan & Okocha, 1993; Wilson, 2000; Feist-Price, 1995;

Wilson, 2002). Additionally, when gender was compared, incongruencies also existed in the allocation and delivery of VR services.

### **Gender Discrimination in VR**

The disproportionate amount of women accepted into VR services as well as the positions that accepted consumers are rehabilitated into indicates gender discrimination. One of the few studies of sexism and Vocational rehabilitation was conducted in 1985 by Danek and Lawrence, who looked at different variables in women with disabilities who were accepted for vocational rehabilitation services. A significant number of women with disabilities who were accepted for VR services were rehabilitated into the role of homemaker, even though homemaker had not been their initial goal. Whereas women had more favorable interpersonal skills, men were found to have more undesirable employee traits, such as “failure to cooperate.” The jobs women began upon closure of VR services tended to be more aligned with their initial vocational goals, at least for the women closed as “rehabilitated” into positions other than homemaker. However, half of the women whose goals had not been homemaking still ended up in homemaking jobs (Danek and Lawrence, 1985).

As women found their ways into the workplace in larger numbers, and women with disabilities applied for vocational rehabilitation services, a contradiction arose. Women were accepted for rehabilitation services more often than men were, but given that a greater portion of women are disabled (Capella, 2005), women with disabilities are still underrepresented. Women were closed mostly in employment positions as homemakers, regardless of the whether or not the position was consistent with their initial

vocational goal (Danek & Lawrence, 1985). Nevertheless, managerial and professional jobs mainly went to men when they were rehabilitated (Danek & Lawrence, 1985).

### **Race and Gender Interactions in VR**

There is no existing research showing that race and gender interactions exist in VR. Wilson et al. (2002) found no significance for gender. Capella (2005) also analyzed VR data from the RSA-911 database and found no interaction effect between race and gender.

## **Chapter 3**

### **Methodology**

Differential findings on racial disparities in VR in a mid-western state further warrant a replicated-design type methodology in other states (Wilson et al, 2002). The driving forces behind racial and ethnic disparities in VR research are still unclear in reference to how the patterns are actually related to racial membership or to underlying variables like those suggested in terms of socioeconomic status (Smart & Smart, 1997), geographic location (Tezler & Vazquez Garcia, 2009), and diverse counselor/client pairs (Mahalik et al., 1999). This study used a national sample whereas many of the previous VR studies on race were based on data within one state. Many of the previous studies used only univariate analysis, which only looks for effects of one variable, but this study used binary multivariate logistic regression in addition to preliminary univariate analysis, allowing the assessment of multiple variables and of interaction effects between race and gender.

### **Purpose**

This research was exploratory in nature because there was no existing knowledge on the patterns of VR acceptance based on Latino race in comparison to and combination with gender. A predictive component was added after the initial exploratory stage. Once the exploratory analysis was completed (Type III/Wald Logistic Regression), Type I Logistic Regression was used with the entry of variables in the order specified by the findings in the Wald statistic (Type III Logistic Regression).

One null hypothesis and three alternative hypotheses:

H<sub>0</sub>: There is no difference in VR acceptance rates based on race or gender of Latinos with disabilities.

H<sub>1</sub>: White Latino/as will be accepted more than Black Latino/as.

H<sub>2</sub>: White female Latinos will be accepted more than White male Latino/as.

H<sub>3</sub>: Black Latino/as will not differ in VR acceptance rates based on gender.

The null hypothesis was tested using chi-squared analysis and the alternative hypotheses were tested using binary logistic regression.

### **Data Collection**

This is an ex-post facto study that analyzed data from the Rehabilitation Services Administration (RSA) Case Services report, also known as the RSA-911, a national database containing summary data of the applicants and consumers of state VR services in the United States (Schwanke & Smith, 2004). Reports are submitted annually for the preceding fiscal year by each state VR agency. The fiscal year runs from October 1 of the year of reference to September 30 of the following year (RSA, 2008). The data for this study was from fiscal year (FY) 2007.

The report is in a basic rigid flat file format as specified by the American Standard Code for Information Interchange (ASCII). The report is accompanied by a manual of federal guidelines to specify how to categorize and enter data into the RSA-911. VR counselors record the data as specified by the consumer. If the consumer chooses not to self identify, measures are taken to establish observer-identification. The



data retrieved from the RSA-911 for the purposes of this study were analyzed using the computer data analysis package, SPSS, and a personal computer version of SAS 9.2. The RSA-911 coding manual specifies a way to code the data so that errors are minimized. Because only random error can occur in the data processing, there should be no threat of systematic bias in the collection of the data.

The RSA-911 identifies Latino people as Hispanic, and so the variables were described using the term “Hispanic” for the methods section, although the rest of the study refers to the ethnicity of the population as “Latino/a” because of the historically-related preferences described by Quinones-Mayo, Wilson, and McGuire in 2000.

### **Participants**

The sample pool consisted of the entire Hispanic population in the RSA-911 database for FY 2007-2008, which was compared for race, gender, and VR acceptance rates. Applicants can be any age from 16 years old to 64 years old. Salient characteristics of the participants were that they were Latino/a, had a disability, lived in the United States, and applied to the VR system for services. The sample was separated into four categories: Black Hispanic Male, Black Hispanic Female, White Hispanic Male, and White Hispanic Female. The whole database of people with disabilities for FY 2007 was 599,237. The Hispanic population accounted for 58,479 (9.8%) of people with disabilities. Racial categories consisted of 2,028 (3.5%) Black Hispanic male, 1,448 (2.5%) Black Hispanic female, 29,591(50.6%) White Hispanic male, and 23,244 (39.7%) White Hispanic female. No other characteristic was included to define the sample population.

### **Variables**

Whether one is studying race as a sole predictor or as a descriptor of a different phenomenon, a critical component to have in a study is skin color/phenotypic features (Heppner, Wampold, & Kivligham, 2008) and a critical component to establishing external validity. Without random assignment, populations could differ in extraneous variables such as “socioeconomic status (SES), family status, parental involvement and supervision, community crime rates, and so forth.” (Heppner et al, 2008, pg. 354).

Heppner et al. cite Ponterotto and Casas (1991) for the following recommendation:

Knowing simply the ethnic make-up and mean ages of one’s sample is insufficient in assessing result generalizeability. Describe the sample fully: mean and median age; educational level (and in immigrant groups, where the education was received); socioeconomic status; gender; preferred language and level of acculturation in immigrant samples; the level of the racial identity development geographic region of the study; and any other sample characteristics you believe your reader would consider when interpreting the results. As a rule of thumb, the more accurately you can describe your sample, the more accurate you can be in determining the generalizeability of your results. (p. 107).

Wilson (2000) also stated that external variables can influence VR acceptance. In addition, Wilson et al. (2002) stated the variables in their study (race, gender, education, work status at application, and primary source of support at application) had all been generally identified as possible factors that influence VR acceptance and success.

For the generalizeability reasons listed above by Heppner et al. (2008); and Wilson et al. (2002), the following similar variables in the RSA-911 database were included in addition to the described independent variables and dependent variable:

primary source of support at application, highest grade completed, and work status at application (Rehabilitation Services Agency, 2008). There may be other variables that would be good to have included but the variables primary source of support, employment status, and education were already existent in the database and provided easy inclusion. A measure to account for the VR acceptance rates of people with severe disabilities compared to the people without severe disabilities was also put into the data analysis because African Americans (Atkins & Wright, 1980), females (Danek & Lawrence, 1985), and underrepresented populations are more likely than White males to have severe disabilities. Severe disabilities may be an extraneous variable to racial and gender disparities in VR. Additionally, VR acceptance has been related to the following factors in previous research (Smart & Smart, 1997; Wilson, 2000): education (Bolton & Cooper, 1980; Smart & Smart, 1997), gender (Danek & Lawrence, 1985; Harrison & Wayne, 1985; Wheaton, Wilson, & Brown, 1996), work history (Alston & Bell, 1996), and source of support (Atkins & Wright, 1980; Wilson, 1997). All of the variables were categorical.

### **Variables Used in the Study**

Dependent Variable: VR acceptance rates are embedded in the closure statuses of the data. Of the different types of closure statuses in state VR, two are relative to being not accepted. The frequency of this closure code was compared to the sum of the frequency of other closure codes related to being accepted to assess whether closure of the applicants' case files had occurred either before or after acceptance. The closure codes were recoded into a binomial yes/no variable labeled "counsel." Closure codes 1

and 2 were recoded as “no” for counsel, and closure codes 3 through 7 were recoded as “yes” for counsel.

### **Type of Closure**

The closure codes were coded to fit into one of two groups, included either in the “accepted” group or the “not accepted” group. The original closure codes are as follows.

- 1 Exited as an applicant (Line D7 on RSA-113)
- 2 Exited during or after a trial work experience/extended evaluation (Line D6 on RSA-113)
- 3 Exited with an employment outcome (Line D1 on RSA-113)
- 4 Exited without an employment outcome, after receiving services (Line D2 on RSA-113)
- 5 Exited without an employment outcome, after a signed IPE, but before receiving services (Line D4 on RSA-113)
- 6 Exited from an order of selection waiting list (Line D5 on RSA-113)
- 7 Exited without an employment outcome, after eligibility, but before an IPE was signed (Line D3 on RSA-113)

### **Independent Variables**

#### **Race and Gender**

There were six independent variables in the study. Variables of interest were race and gender. Descriptions of how they were scaled are included in this section. Control variables included significance of disability (severity), employment status at application,

primary source of (financial) support at application, and level of education at application. Gender was defined in a binary fashion, as male or female. Ethnicity was not a variable because every participant observed was Latino/a. Although Latino/as may choose from 6 racial categories to self-describe their race, only two races were included in the analysis: Black and White, because every single race other than Black or White that is identified by Latino/as is of extremely small quantities (U.S. Census, 2008). Less than .4 percent each of Latino/as in the 2008 American Community Survey identified as “American Indian and Alaska Native,” “Asian,” or “Native Hawaiian and Other Pacific Islander.” Education status at application, employment status at application, and primary source of support at application were also included as a means for staying alert to possible residuals from race and gender. The variables used in this study are similar to those used by Wilson et al. (2002) who described them to “have generally been identified as possible contributors in explaining variance in VR acceptance and success” (p. 136).

The coding instructions for the data variables as they are entered into the RSA-911 database were specified by the coding manual for FY 2007 (Rehabilitation Services Agency, 2006), and are as follows. Gender was recoded as 0 = Male (reference variable) and 1 = Female.

### **Gender**

- 1      Male
- 2      Female
- \*      Information is not available for Closure Code 1

### **Race and Ethnicity**

Variables for “Hispanic or Latino” are all 1, since the observations are inside the Latino population. Latinos then select a race from the following selections. Since White and Black were the only races analyzed for this study on Latino/a ethnicity, they were coded as 0 (white, reference variable) and 1 (black). The following is the original coding from the

RSA-911 2007 manual.

- 0     White
- 1     Black or African American
- 2     American Indian or Alaska Native
- 3     Asian
- 4     Native Hawaiian or Other Pacific Islander
- 5     Hispanic or Latino

#### **Level of Education Attained at Application.**

The manual specified 9 different codes for education. Some codes had significantly higher or lower amounts than others. To balance the levels and prevent errors in the data analysis, education was recoded/collapsed into three categories, as noted in Table 1. Below table 1 are the original codes from the manual.

| New Levels  | Old levels   |
|-------------|--|
| ‘elemed’    | ‘No Formal Education,’ ‘Elementary Education   |
| ‘secondary’ | ‘Secondary Education, No Diploma,’<br>‘Secondary Education w/Certificate or Diploma,’<br>‘High School Diploma’ |

**Table 1:**

|               |  |
|---------------|--|
| 'asso_higher' | 'Post Secondary, No Degree,'<br>'Associate Degree,'<br>'Bachelor's Degree,'<br>'Masters or higher' |
|---------------|--|

**Recoding Education Variables**

- 0 No formal schooling
- 1 Elementary education (grades 1-8)
- 2 Secondary education, no high school diploma (grades 9-12)
- 3 Special education certificate of completion/diploma or in attendance
- 4 High school graduate or equivalency certificate (regular education students)
- 5 Post-secondary education, no degree
- 6 Associate degree or Vocational/Technical Certificate
- 7 Bachelor's degree
- 8 Master's degree or higher
- \* Information is not available for Closure Code 1

### **Employment Status at Application.**

Employment status was recoded into two character variables: 'employed,' (1-7) or 'not employed' (8-11). Below are the original codes from the manual.

- 01 Employment without Supports in Integrated Setting
- 02 Extended Employment
- 03 Self-employment (except BEP)
- 04 State Agency-managed Business Enterprise Program (BEP)
- 05 Homemaker
- 06 Unpaid Family Worker
- 07 Employment with Supports in Integrated Setting
- 08 Not employed: Student in Secondary Education



- 09 Not employed: All other Students
- 10 Not employed: Trainee, Intern or Volunteer
- 11 Not employed: Other
- \*\* Information is not available for Closure Code 1

### **Primary Source of Support at Application**

The following codes are as the manual specified. Personal income was the reference variable.

- 1 Personal Income (earnings, interest, dividends, rent)
- 2 Family and Friends
- 3 Public Support (SSI, SSDI, TANF, etc.)
- 4 All other sources (e.g., private disability insurance and private charities)
- \* Information is not available for Closure Code 1 or information is not available for all other closure codes due to circumstances beyond the agency's control

### **Significant Disability**

Severity of disability is gauged by whether the disability is a significant or not.

The definitions of significant disability are threefold. Significant disability is defined as the following:

- a) (an individual) who has a physical or mental impairment that seriously limits one or more functional capacities (such as mobility, communication, self-care, self-direction, interpersonal skills, work tolerance, or work skills) in terms of an employment outcome;

- b) (an individual) whose VR can be expected to require multiple VR services over an extended period of time; and
- c) (an individual) who has one or more physical or mental disabilities resulting from 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 illness, multiple sclerosis, muscular dystrophy, musculo-skeletal disorders, neurological disorders (including stroke and epilepsy), spinal cord conditions (including paraplegia and quadriplegia), sickle cell anemia, specific learning disability, end-stage renal disease, or another disability or combination of disabilities determined on the basis of an assessment for determining eligibility and VR needs to cause comparable substantial functional limitation.

Further explanations and additional definitions are included in the Appendix.

- 0 No Significant Disability
- 1 Significant Disability
- \* Information is not available for Closure Code 1

Table 2 summarizes all the independent variables, including control variables, and their levels.

**Table 2: Independent Variables and their Levels**

| <b>Gender</b> | <b>Race</b> | <b>Education</b>     | <b>Severity of Disability</b> | <b>Employment</b> | <b>Primary Source of Support at Application</b> |
|---------------|-------------|----------------------|-------------------------------|-------------------|---|
| Female        | White       | Elementary           | No Significant Disability     | Employed          | Personal Income                                 |
| Male          | Black       | Secondary            | Significant Disability        | Not Employed      | Family/Friends                                  |
|               |             | Associates or Higher |                               |                   | Public Assistance                               |
|               |             |                      |                               |                   | All Other                                       |

### **Analysis**

Data preparatory analysis was conducted before the final binary logistic analysis. Before data analysis took place, preparatory steps to anticipate main effects were done. Odds ratios were initially calculated using the Statistical Analysis Software (SAS) package 9.1.2 to predict the likelihood that observations would actually be related to the dependent variable as opposed to some other extraneous type relationship. Chi-square analysis was conducted to test the null hypothesis: whether all the variables were equal (non-significant). Cross tabulation was used to create chi-square tests of race, sex, and acceptance rates. Case-Control (Odds Ratio) that had 95% confidence under 1.0 and Limits over 1.0 indicated an association between variables. The results of the data analysis were at risk for error due to the large sample size. An additional parameter of correlation, Cramer's V, was incorporated to measure whether the strength of the possible association was significant. If Cramer's V was 0.1 or greater, then a previously identified significant difference could be considered practical, regardless of the potential erroneous

effect of having a large sample size. When the absolute value of the Cramer's V was less than 0.1, there were no practical significant differences in VR acceptance rates. When data did not meet the Cramer's V criteria, confirmation was conducted by random selection of 5% of the data set and running the chi-square independence test on the smaller set of randomly sampled data.

Once the data set was prepared, data analysis was conducted. Binary Logistic Regression was used to analyze the data. Type III binary logistic regression analyzes the lump sum of data to produce the most significant independent variable-dependent variable relationships. The data is loaded into the computer all at once, and each independent variable is analyzed in accordance to how it relates to a dichotomous variable. This was an optimal choice because the dependent variable was dichotomous: either accepted or not accepted. The size of the correlation proportions between race and acceptance and gender and acceptance were compared.

To assess the strength of the relations of the effect to each independent variable and the direction of this effect (positive relationship vs. negative relationship), a *b* value was examined. The *b* value is also known as the predictor coefficient. With the odds ratios conducted, chi-square analysis conducted to test the null hypothesis and *b* values predicting the strength and the direction of the relationship(s), the data were ready to undergo two stages of logistic regression. First, a logistic regression procedure was run to analyze the 2-way interaction effects of each independent variable on each other. If an interaction had a *p* value > .2, the interaction was considered highly insignificant and removed from the data analysis.

With the highly insignificant pairs removed, logistic regression was conducted once again. The alpha level in a statistical test is relative to the power of the test. There was a large sample size so the alpha level was set at a stringent value, .01. In order for an interaction to be considered significant, the resulting  $p$  value must be  $< .01$ , which is the alpha level (Heppner et al., 2008).

## Chapter 4

### Results

The study, while lacking random sampling, was a field study, consisting of clients who applied for services with VR. The external validity of the findings of this study was strengthened by the fact that results were highly generalizable, being both national and actual.

There was a null hypothesis and three alternative hypotheses:

H<sub>0</sub>: There is no difference in VR acceptance rates based on race or gender of Latinos with disabilities.

H<sub>1</sub>: White Latino/as will be accepted more than Black Latino/as.

H<sub>2</sub>: White female Latinos will be accepted more than White male Latino/as.

H<sub>3</sub>: Black Latino/as will not differ in VR acceptance rates based on gender.

Chi-square analysis was used to test the null hypothesis and produced significant correlations of the independent variables of interest; however, due to the possibility of Type I errors when using a large sample size, another parameter was implemented to analyze the strength of the associations between the variables of interest. Cramer's V was less than 0.1 for the gender, race, and acceptance rates chi-square cross tabulations, indicating that a significant association did not actually exist. The null hypothesis was

accepted on the basis of this finding. Random selection of 5% of the sample and running the chi-square analysis again confirmed that there was no significant relationship.

Binary logistic regression was used to predict the probability of acceptance across all of the independent variables and their possible interactions. Type III binary logistic regression was conducted. This is also known as calculating the Wald test statistic. The most significant independent variables out of the variables included in the significant interactions were: Significance of Disability (392.5148), Education (8.0556), Race (1.3374), Employment (1.0008), and Gender (0.2245). Wald test statistics are included in Tables 3.

Independent variables from the preparatory binary logistic regression analysis that had significant interactions with the independent variables of interest (gender and race) were entered into the final data analysis.

The first logistic regression used to prepare the data included six independent variables: 2 variables of interest and 4 control variables. Interaction effects analysis consisted of 9 pairs: gender x race, gender x education, gender x significance of disability, gender x employment status, gender x primary source of support, race x education, race x significance of disability, race x employment status, and race x primary source of support (Table 3.). Interactions were analyzed for an alpha level of less than .2 in order to eliminate the highly insignificant interactions. The following interactions were retained for data analysis because their p values were less than .2: Gender (female) x Race (Black) ( $p = 0.0089$ ), Gender (female) x Significance of Disability (no significance) ( $p < .0001$ ), Race (Black) x Education (secondary) ( $p = 0.1143$ ), Race (Black) x

Significance of Disability (no significance) ( $p < .0001$ ), and Race (Black) x Primary Source of Support (public) ( $p = 0.1243$ ).

Binary logistic regression was conducted on the remaining variables and their interactions. A stringent alpha level of .01 was chosen in order to account for possible errors related to the large sample size of the data.

The predictor coefficient ( $b$  value) was calculated for the variables. The  $b$  value determines the strength and direction of the independent variable-dependent variable relationship. Predictor coefficients were drawn for race at 0.0327 and gender at -0.1801. These values indicated that the race of Latino people is more strongly related to VR acceptance rates than gender, and that gender has a negative relationship with VR acceptance rates as opposed to race, which had a positive relationship with VR acceptance rates. The rest of the variables predictor coefficients are included in Table 4.

The odds ratios showed that the following four independent variables were significantly related within the model of VR acceptance: gender, race, significance of disability, and primary source of support. Results are displayed in Table 5. That means that when the following factors interacted, VR acceptance was significantly affected. Main effects were not examined because the existence of interaction effects made the investigation of main effects meaningless. Interaction effects ( $p < .01$ ) were significant for the following pairs. Gender x Race ( $p = 0.0095$ ): Black Latino males were accepted for VR services 50% more than White Latino males, and Black Latina females were accepted 60% more than White Latina Females. Gender x Significance of Disability ( $p < .0001$ ): Males with significant disabilities were 50% more likely to be accepted than females with significant disabilities, and females with no significant disabilities were



14% more likely than males with no significant disabilities to be accepted for VR services. Race x Significance of Disability ( $p < .0001$ ): White Latino/as with significant disabilities were 33% more likely than Black Latino/as with significant disabilities to be accepted, and White Latino/as with no significant disabilities were 31% more likely than Black Latino/as with no significant disabilities to be accepted. Race x Primary Source of Support ( $p = 0.0008$ ): Black Latino/as with public financial support were likely to be accepted 30% less than White Latino/as with public financial support, Black Latino/as with financial support from family and friends were likely to be accepted 23% less than White Latino/as with financial support from the same source. For all other sources of financial support, Black Latino/as were likely to be accepted for VR services 88% more than White Latino/as.

| Table 3. Results from Data Preparatory Analysis (alpha = .2)          |                    |                   |
|---|--------------------|-------------------|
| * means that $p$ value was below alpha level                          |                    |                   |
| <b><u>Variable</u> (reference level)</b>                              | <b><u>Wald</u></b> | <b><u>p</u></b>   |
| <b>Gender (female)</b>  | <b>0.2245</b>      | <b>0.6356</b>     |
| <b>Race (Black)</b>   | <b>1.3374</b>      | <b>0.2475</b>     |
| <b>Level of Education attained at Application</b>                     | <b>8.0556</b>      | <b>0.0178*</b>    |
| <b>Employment status at application (employed)</b>                    | <b>1.0008</b>      | <b>0.3171</b>     |
| <b>Primary Source of Support (personal income)</b>                    | <b>7.4891</b>      | <b>0.0578*</b>    |
| <b>Significance of disability (no significance)</b>                   | <b>392.5148</b>    | <b>&lt;.0001*</b> |
| <b><u>Interactions</u></b>  |                    |                   |
| <b>Gender x Race (female, Black)</b>                                  | <b>6.8471</b>      | <b>0.0089*</b>    |
| <b>Gender x Education</b>   | <b>0.6742</b>      | <b>0.7139</b>     |
| <b>Gender x Employment Status<br/>(female, employed)</b>              | <b>0.3248</b>      | <b>0.5688</b>     |
| <b>Gender x Primary Source of Support</b>                             | <b>4.7410</b>      | <b>0.1918*</b>    |
| <b>Race x Education</b>   | <b>6.0888</b>      | <b>0.0476*</b>    |
| <b>Race x Significance of Disability<br/>(Black, no significance)</b> | <b>19.6051</b>     | <b>&lt;.0001*</b> |
| <b>Race x Employment Status (Black, employed)</b>                     | <b>0.8877</b>      | <b>0.3461</b>     |
| <b>Race x Primary Source of Support<br/>(Black, personal income)</b>  | <b>15.2151</b>     | <b>0.0016*</b>    |

Table 4. Results from Data Analysis (alpha = .01)\* *means that p value is significant*

| <b><u>Variable</u></b>  | <b><u>b</u></b> | <b><u>Wald</u></b> | <b><u>p</u></b>   |
|---|-----------------|--------------------|-------------------|
| <b>Intercept</b>  | <b>-3.5659</b>  | <b>2144.7585</b>   | <b>&lt;.0001*</b> |
| <b>Gender (female)</b>  | <b>-0.1801</b>  | <b>8.6516</b>      | <b>0.0033*</b>    |
| <b>Race (Black)</b>   | <b>0.3237</b>   | <b>0.9249</b>      | <b>0.3362</b>     |
| <b>Level of Education: Secondary</b>                              | <b>-0.2547</b>  | <b>18.0873</b>     | <b>&lt;.0001*</b> |
| Associate's degree or higher                                      | <b>-0.2672</b>  | <b>15.1793</b>     | <b>&lt;.0001*</b> |
| <b>Primary Source of Support: Family and friends</b>              | <b>0.1324</b>   | <b>6.9109</b>      | <b>0.0086*</b>    |
| Public support  | <b>0.6280</b>   | <b>120.6608</b>    | <b>&lt;.0001*</b> |
| All others  | <b>0.2381</b>   | <b>6.5496</b>      | <b>0.0105*</b>    |
| <b>Significance of disability (no significance)</b>               | <b>3.9669</b>   | <b>6289.2867</b>   | <b>&lt;.0001*</b> |
| <b><u>Interactions</u></b>  |                 |                    |                   |
| <b>Gender x Race (female, Black)</b>                              | <b>0.3418</b>   | <b>6.7271</b>      | <b>0.0095*</b>    |
| <b>Gender x Significance (female, no significance)</b>            | <b>0.3197</b>   | <b>19.0515</b>     | <b>&lt;.0001*</b> |
| <b>Race x Education (Black, secondary)</b>                        | <b>0.4042</b>   | <b>2.3071</b>      | <b>0.1288</b>     |
| <b>(Black, associates or higher)</b>                              | <b>0.0249</b>   | <b>0.0067</b>      | <b>0.9346</b>     |
| <b>Race x Significance of Disability (Black, no significance)</b> | <b>-0.5909</b>  | <b>19.2717</b>     | <b>&lt;.0001*</b> |
| <b>Race x Primary Source of Support (Black, public)</b>           | <b>-0.3276</b>  | <b>1.8957</b>      | <b>0.1686</b>     |
| <b>(Black, family and friends)</b>                                | <b>0.0571</b>   | <b>0.0618</b>      | <b>0.8036</b>     |
| <b>(Black, all others)</b>  | <b>0.6166</b>   | <b>3.9717</b>      | <b>0.0463</b>     |

| Table 5. Odds Ratios of Interactions ( <i>Odds ratio of A</i> )/( <i>Odds ratio of B</i> )= <i>Odds ratio of AB</i> |   |  |  |
|---|---|--|--|
| <b><u>Gender x Race</u></b>   | Male White vs. Black: <b>0.5</b>                | Female White vs. Black: <b>0.4</b>               |  |
| <b><u>Race x Significance of Disability</u></b>   | White vs. Black w/ Sig. Disability: <b>1.33</b> | White vs. Black w/o Sig. Disability: <b>1.31</b> |  |
| <b><u>Gender x Significance of Disability</u></b>   | male vs. female w/ Sig. Disability: <b>1.5</b>  | male vs. female w/o Sig. Disability: <b>.86</b>  |  |
| <b><u>Race x Primary Source of Support</u></b>  | Public Black vs. White: <b>.7</b>               | Family Black vs. White: <b>.67</b>               | All others Black vs. White: <b>.12</b> |

## Chapter 5

### Discussion

There was a null hypothesis and three alternative hypotheses:

H<sub>0</sub>: There is no difference in VR acceptance rates based on race or gender of Latinos with disabilities.

H<sub>1</sub>: White Latino/as will be accepted more than Black Latino/as.

H<sub>2</sub>: White female Latinos will be accepted more than White male Latino/as.

H<sub>3</sub>: Black Latino/as will not differ in VR acceptance rates based on gender.

Hypotheses inferred that there would be higher acceptance rates for women than men in accordance with the findings of Danek and Lawrence (1985) and that White Latinos would have higher acceptance rates than Black Latinos in accordance with the findings of Herbert and Martinez (1992). Evaluation of interaction effects relative to race and gender was included but not anticipated (Wilson, Alston, Harley, & Mitchell, 2002). More specifically, because of the findings by Danek and Lawrence (1985) and Harrison and Thomas (2009), results among male and female Black Latino/as were expected to be similar to each other but lower than those of White male Latinos (Wilson & Senices, 2010). Female White Latinas were expected to have the highest VR acceptance rates.

There was no main effect of race or gender on VR acceptance rates of Latino people with responsibilities. This was evident in the results from the data preparatory

analysis. With no main effects present, the data was subsequently analyzed for interaction effects. Logistic regression was conducted after the null hypothesis was rejected because of the findings in the chi-squared analysis (data preparatory analysis). Alternative hypotheses were not accepted because the null hypothesis was accepted. Logistic regression analysis would take into account possible interaction effects of the SES control variables. Significant interaction effects were identified between control variables and the variables of interest. The results from the logistic regression analysis suggested the probability that acceptance would occur based on the included variables of the applicant. The presence of the significant interaction effects indicates that an inquiry into the main effects of the variables involved is not relevant. The interaction effects from the logistic regression analysis could be observed as significant predictors of effects of the independent variables on the dependent variable, regardless of the absence of significant main effect.

According to the data observed in this study for VR acceptance of Latino/as in FY 2007, there is a significant gap in service acceptance based on

- 1) Race for people whose primary source of support from all others
- 2) Race for females
- 3) Race for males
- 4) Gender for people with significant disabilities
- 5) Race for people with significant severity of disabilities
- 6) Race for people with non significant severity of disabilities
- 7) Race for people whose primary source of support is public assistance

- 8) Race for people whose primary source of support is from family and friends, and
- 9) Gender for people with non significant severity of disability.

Data analysis findings that Colorism is evident in VR acceptance are mixed; sometimes Colorism is evident and sometimes it isn't, depending on gender, severity of disability, and the external SES variable of primary source of (financial) support. Though chi-squared analysis showed no main effect for race on VR acceptance rates, when logistic regression was used to analyze severity of disability (divided into two categories, significant vs. non-significant), Latino/as with darker colored skin were less likely to be accepted than Latino/as with lighter colored skin for all levels of the variable (both significant disability and non-significant disability). The reverse is true for gender. When chi-squared analysis was used to evaluate a main-effect, no significant effect was identified; however, when logistic regression was used to evaluate interaction effects of gender and race, results showed that Latino/as with darker skin were more likely to be accepted than Latino/as with lighter colored skin for both males and females. Latino/as with darker skin were also less likely to be accepted than Latino/as with lighter colored skin when their primary source of support was from "all others;" but for the categories of primary source of support from family and friends and primary source of support from public assistance, Latino/as with lighter skin were less likely to be accepted. This data analysis suggests that the presence of Colorism in accepting Latino/as with disabilities for VR services is related to gender and SES.

### **Limitations**

Limitations of external validity on populations and internal validity of data analysis may or may not have affected the results.

One limitation in the research is the usage and comparison of existing racial categories for the purpose of identifying an issue of Colorism. Colorism is related to privilege and oppression based on variations of phenotype and skin color/phenotypic features inside of race as well as outside of race (Wilson & Senices, 2008; Montavlo, 2009). The study compared a dependent variable, VR acceptance rates according to two designations of skin color/phenotypic features (Black race or White race) inside one ethnicity (Latino); but could not account for disparities and discrimination related to various shades and hues as was the case in Harrison and Thomas (2009). The case-reporting manual (RSA, 2008) stated that if an applicant was unwilling to choose a category of race for themselves, the administrator, usually the counselor, had the responsibility of choosing the category. Data regarding if and how often this occurred was not available. If an observation was made any way other than self-report, then the accuracy of reporting the race of the applicant was compromised. If self-report was present in the data collection, basing the study on self-report would be a limitation.

This study was limited to the variables that are available in the RSA-911 database for the 2007 fiscal year. Every possible variable that may affect the acceptance rates of Latinos with disabilities was not included in the study, which limited the reliability of the findings.

Ex-post facto data was used in this study. Though the process of the data collection is clearly mandated (RSA, 2008) and described to ensure consistency throughout the methods of collection and observation, the data was not collected by the



researcher involved in this study. Data collected from anyone other than the researcher or research team in a study automatically poses a limitation on the accuracy of the data and practices of the data collection (Heppner et al., 2008).

### **Future Research**

The variability in current research findings regarding race and VR acceptance rates warrants further research to identify a definable construct of interrelations. Why acceptance rates have sometimes been found to be equal, sometimes more for European Americans, and sometimes more for African Americans has yet to be determined. Evidence from this research reinforces the contradiction; sometimes Black Latino/as were more likely to be accepted and sometimes White Latino/as were more likely to be accepted. Disproportions of gender-related interactions in this research add to the unexplained variability. The existence of differentiation among race and gender accepted in VR system could be related to a number of causes: ethics because it is crucial in the decision making of the VR counselor and is often based on cultural heritage relative to race and gender, multicultural training and/or understanding, or racially or gender-based discrimination of VR applicants by the VR counselors who determine acceptance. Intracultural and intercultural incongruencies and VR policies may also be creating barriers to acceptance of underrepresented people such as females and persons with darker skin like African Americans and Black Latino/as. Results suggest that unidentified barriers are existent in the VR system, so recommendations include that research focus on operationalizing a construct of patterns on which to target further investigations of existing barriers. More research is needed on VR acceptance rates to determine all the facets of inequalities that exist among race and gender when applying for VR services.

Skin color/phenotypic features stratification across populations in America determines disparities (Harrison & Thomas, 2009). Harrison and Thomas identified colorism evident in the selection of Black people whose skin is of lighter pigment over Black people whose skin is of darker pigment. Hunter (2008) recommended the use of racial designation in the absence of more accurate categories of skin tone. While it is beyond the scope of this current study to assess the level of color of skin of the participants because the data is ex-post facto, the self perception of Latinos can be included as a descriptive measure for further study.

Gender has been analyzed before in terms of employment discrimination (Harrison & Thomas, 2009) and VR rates (Capella, 2005; Wilson et al., 2002; Danek & Lawrence, 1985). Results from this study indicated that gender disparities are likely to be found in VR acceptance when the severity of the disability is also defined. However, employment studies have found no difference in the rates at which Black women (not disabled) are hired compared to Black men (also not disabled) (Harrison & Thomas, 2009). Also contradictory to the findings of this study, VR acceptance rates studies have found that women are accepted more often than men (Capella, 2005; Danek & Lawrence, 1985). VR research on other statistics in the VR process have found that women do not get rehabilitated into competitive jobs as frequently as men (Capella, 2005; Danek & Lawrence, 1985) and the jobs women are rehabilitated into are less aligned with their initial vocational rehabilitation goals. One thing that could be the cause of this, which could be investigated in future research, may be a lack of child care access for the women with disabilities who are seeking careers. Future research on women's post-service

accounts of their VR processes may shed light on why they are rehabilitated against their goals into homemaker status more than men.

Qualitative methods of investigation in VR experiences of people with disabilities are altogether lacking. Studies based on qualitative investigations could conduct exit interviews of people who applied for VR services and the experiences incurred by applicants for service. Interviews of clients and counselors could also be conducted. Qualitative research would help examine how the existing quantitative research has produced mixed results.

### **Conclusion**

VR acceptance rates for Latino/as with disabilities were analyzed in comparison to two variables of interest, race and gender, and four control variables, employment status at application, primary source of support at application, education level at application, and severity of disability. Severity of disability, gender, primary source of support, and race were the independent variables which, when analyzed for interactive effects dependent on one another, predicted the dependent variable, VR acceptance.

Latino/as are the fastest growing population in the United States. Rehabilitation counseling efforts need to focus on restructuring practice to best serve all populations including this very large and underserved one. Quantitative research is lacking on race discrimination of Latino/as and qualitative research is lacking for VR acceptance rates and practices in general.

Research has shown (Tezler & Vazquez Garcia, 2009) that Colorism can affect SES, setting a stage to subsequently influence the variables other than race that were found to be significant. Employment did not fit that projected model and though

education did, education was not found to have a significant relationship with gender or race. Interactions of skin color (phenotype), gender, significance of disability, and primary source of support were found to affect the acceptance rates of Latino/a applicants for vocational rehabilitation services, warranting further investigation into the efficiency and success of Vocational rehabilitation services for all people with disabilities.

The job of the rehabilitation counselor is a role where an understanding of the existence of service accessibility disparities and how to overcome them is critical (Quinones-Mayo et al, 2000). The changing demographics in the United States related to the growing Latino community pose an urgent need to re-examine service practices so that histories and cultural contexts that are different from those understood by a traditional Western culture are included in the considerations that take place in the process of VR acceptance. Most of the counselors in state VR agencies are of the dominant White background (Bonilla Silva, 2000); however, they work with people who are likely to have backgrounds that are different than their own. Counselors from dominant White backgrounds are working with significantly more people of color, who have higher rates of severe disabilities as opposed to mild disabilities (Smart & Smart, 1997).

Bias poses a possible tangible threat to counseling. This threat includes counseling inside of VR (Herbert & Cheatham, 1988). Counseling needs to be more inclusive and effective for people of color; and, as this research suggests, for females. This is supported by legislative mandates (Hershenson, 1986), with the intent to bring much needed awareness to the needs of unacknowledged cultural issues that counselors are currently challenged to address (Quinones-Mayo, Wilson, & McGuire, 2000).

Overcoming bias in the client/counselor relationship is more complex than simply presenting evidence contradictory to stereotypical beliefs (Butcher & Scofield ,1984). Identifying effective multicultural counseling competencies to train professional counselors to not be biased in their clinical impressions is imperative in overcoming barriers related to racial and gender disparities in VR.

## References

- Alston, R. J., & Bell, T. J. (1996). Cultural mistrust and the rehabilitation enigma for African Americans. *Journal of Rehabilitation*, 62(2), 16-20.
- American Psychiatric Association (APA). (1994). *Diagnostic and Statistical Manual of Mental Disorders* 94<sup>th</sup> ed).. Washington, DC: Author.
- Atkins, B. J., & Wright, G. N. (1980). Three views: Vocational rehabilitation of Blacks: The statement. *Journal of Rehabilitation*, 46, 40(2) 42-46.
- Bolton, B., & Cooper, P. (1980). Three views: Vocational rehabilitation of Blacks: The comment. *Journal of Rehabilitation*, 46, 41, 47-49.
- Bonilla-Silva, E. (2000). This is White country: The racial ideology of the western nations of the world-system. *Sociological Inquiry*, 70(2), 188-214.
- Bonilla-Silva, E., & Dietrich, D. R. (2008). The Latin Americanization of racial stratification in the U.S. In R. E. Hall (Ed.), *Racism in the 21<sup>st</sup> Century* (pp. 151-170). New York, NY: Springer Publishing.
- Bowe, F. (1984). U.S. census and disabled adults. Hot Springs: University of Arkansas, Arkansas Rehabilitation Services, Arkansas Rehabilitation Research and Training Center.
- Butcher, E., & Schofield, M. E. (1984). Use of standardized simulation and process tracing for studying clinical problem solving competence. *Counselor Education and Supervision*, 24, 70-84.

- Capella, M. E. (2002). Inequities in the VR system: Do they still exist? *Rehabilitation Counseling Bulletin*, 45, 143-153.
- Cokely, K., & Awad, G. H. (2008). Conceptual and methodological issues related to multicultural research. In R. E. Hall (Ed.) *Racism in the 21<sup>st</sup> Century* (pp. 366-384), New York, NY: Springer Publishing.
- Cortina, L. (2008). Unseen injustice: Incivility as modern discrimination in organizations. *Academy of Management Review*, 33(1) 55-75.
- Danek, M. M., & Lawrence, R. E. (1985). Women in rehabilitation: An analysis of state agency services to disability women. *Journal of Applied Rehabilitation Counseling*, 16, 16-18.
- Dziekian, K. I., & Okocha, A. A. G. (1993). Accessibility of rehabilitation services: Comparison by racial-ethnic status. *Rehabilitation Counseling Bulletin*, 36(4), 183-189.
- Feist-Price, S. (1995). African Americans with disabilities and equity in vocational rehabilitation services: One state's review. *Rehabilitation Counseling Bulletin*, 39, 119-120.
- Fine, M., & Asch, A., (1981). Disabled women: sexism without the pedestal. *Journal of Sociology and Social Welfare*, 8(2), 233-248
- Harley, D. A., Jolivette, K., McCormick, K., & Tice, K. (2002). Race, class, and gender: A constellation of positionalities with implications for counseling. Special Issue: Race, ethnicity, gender, and social class in counseling. *Journal of Multicultural Counseling and Development*, 30(4), 216-238.

- Harrison, M. T., & Thomas, K. M. (2009). The hidden prejudice in selection: A research investigation on skin color bias. *Journal of Applied Social Psychology, 39*(1), 134-168.
- Harrison, D. K., & Wayne, B. (1986). Sex equity in accessibility to rehabilitation services. *Rehabilitation Counseling Bulletin, 30*, 116-119.
- Hershenson, D. B. (1988). Along for the ride: The evolution of rehabilitation counselor education. *Rehabilitation Counseling Bulletin, 31*(3), 204-217.
- Heppner, P. P., Wampold, B. E., & Kivlighan, D. M. (2008). Population issues. In *Research and Design in Counseling, 3<sup>rd</sup> ed.* (pp. 344-365). Belmont, California: Thompson Brooks/Cole.
- Herbert, J. T., & Cheatham, H. E. (1988). Africentricity and the Black disability experience: A theoretical orientation for rehabilitation counselors. *Journal of Applied Rehabilitation Counseling, 19*, 50-54.
- Herbert, J. T., & Martinez, M. Y. (1992). Client ethnicity and vocational rehabilitation case service outcome. *Journal of Job Placement, 8*(1), 10-16.
- Hughes, M., & Hertel, B. R. (1990). The significance of color remains: A study of life chances, mate selection, and ethnic consciousness among Black Americans. *Social Forces, 68*(4), 1105-1120.
- Hunter, M. (2008). The cost of color: What we pay for being Black and Brown. In R. E. Hall (Ed.), *Racism in the 21<sup>st</sup> Century* (pp. 63-76). New York, NY: Springer Publishing.
- Kessler, R. C., McGonagle, K. A., Zhao, S., Nelson, C. B., Hughes, M., Eshleman, S., Wittchen, H., & Kendle, K. S. (1994). Lifetime and 12-month prevalence of



- DSM-III-R psychiatric disorders in the United States: Results from the national comorbidity survey. *Archives of General Psychiatry* 51:8–19.
- Lancaster, R. (1999). Skin color, race, and racism in Nicaragua. *Ethnologies*, 30, 339-353.
- Leslie, L. M., & Gelfand, M. J. (2008). The who and when of internal gender discrimination claims: An interactional model. *Organizational Behavior and Human Decision Processes*. 107(2), 123-140.
- Levin, S., Sinclair, S., Veniegas, R. C., & Taylor, P. L. (2002). Perceived discrimination in the context of multiple group memberships. *Psychological Science*, 13(6), 557-560.
- Logan, J. R. (2003) How race counts for Hispanic Americans. Lewis Mumford Center, University at Albany. Retrieved from:  
<http://mumford.albany.edu/census/BlackLatinoReport/BlackLatino01.htm>.
- Mahalik, J. R., Worthington, R. L. & Crump, S. (1999). Influence of racial/ethnic membership and "therapist culture" on therapists' worldview. *Journal of Multicultural Counseling and Development*, 27, 2-17.
- McTague, T., Stainback, K., & Tomaskovic-Devey, D. (2009). An organizational approach to understanding sex and race segregation in U. S. workplaces. *Social Forces*, 87(3), 1499-1528.
- Mendelson, T., Kubzansky, L. D., Datta, G. D., and Buka, S. L. (2008). Relation of female gender and low socioeconomic status to internalizing symptoms among adolescents: A case of double jeopardy? *Social Science & Medicine*, 66(6),1284–96.

- Merriam-Webster. (2010). *Ethnic*. Merriam-Webster's Online Dictionary. Retrieved from <http://www.merriam-webster.com/dictionary/ethnic>.
- Montavlo, F. F. (2009). Ethnoracial gap in clinical practice with Latinos. *Clinical Social Work Journal*, 37(4), 277-286.
- National Institute on Disability and Rehabilitation Research. (1992). Disability statistics abstract number 4. Washington, DC: Author.
- Office of Disability Employment Policy (2010). Question: How does the federal government define "Disability?" Frequently Asked Questions. Retrieved from <http://www.dol.gov/odep/faqs/federal.htm>
- Passel, J. S., & Cohn, D. (2008). U.S. population projections: 2005-2050. Pew Research Center. Retrieved from <http://pewhispanic.org/files/reports/85.pdf>
- Pennsylvania Office of Vocational Rehabilitation. (2000). In-depth description of OVR in Pennsylvania. Retrieved from <http://www.nepacil.org/OVR.htm>
- Ponterotto, J. G., & Casas, J. M. (1991). *Handbook of racial/ethnic minority counseling research*. Springfield, IL, England: Charles C Thomas, Publisher. Retrieved from [www.csa.com](http://www.csa.com)
- Quinones-Mayo, Y., Wilson, K. B., & McGuire, M. V. (2000). Vocational rehabilitation and cultural competency for Latino populations: Considerations for rehabilitation counselors. *Journal of Applied Rehabilitation Counseling*, 31(4), 19-27.
- Rehabilitation Services Administration. (2006). Reporting manual for the case services report (RSA-911). (RSA-PD-07-01). Washington, DC: Author.

- Rehabilitation Services Administration. (2008). Reporting manual for the case services report (RSA-911). (RSA-PD-09-01). Washington, DC: Author. Retrieved from <http://www2.ed.gov/policy/speced/guid/rsa/pd/2009/pd-09-01.doc>
- Rosenbaum, E. (1996). The influence of race on Hispanic housing choices: New York City, 1978-1987. *Urban Affairs Review*, 32(2), 217-243.
- Schwanke, T., & Smith, R.O. (2004). Technical report – Vocational rehabilitation database analysis: RSA-911 case service report and database linking (Version 1.0). Retrieved from <http://www.r2d2.uwm.edu/atoms/archive/technicalreports/tr-rsa911.pdf>
- Smart, J. F., & Smart, D. W. (1997). The racial/ethnic demography of disability. *The Journal of Rehabilitation*, 63, 9-15.
- Spitznagel, R. J., & Saxon, J. P. (1995). Impact of client variables on the delivery of vocational evaluation and training services in the vocational rehabilitation process. *Vocational Evaluation and Work Adjustment Bulletin*, 28(4), 109-115.
- Staveteig, S., & Wigton, A. (2000). Key findings from the national survey of America's families. A product of assessing new federalism. The Urban Institute. Washington, D.C. Retrieved from [http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content\\_storage\\_01/0000019b/80/16/0f/b0.pdf](http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/16/0f/b0.pdf)
- Tezler, E. H., & Vazquez Garcia, H. A. (2009). Skin color and self-perceptions of immigrant and U.S.-born Latinas: The moderating role of racial socialization and ethnic identity. *Hispanic journal of behavioral sciences*, 31(3), 357-374.

- Thompson, M. (2010). Race, gender, and the social construction of mental illness in the criminal justice system. *Sociological Perspectives*, 53, 99-125.
- U.S. Census Bureau. (2006). Hispanics in the United States. Ethnicity and Ancestry Branch, Population Division, U.S. Census Bureau. Retrieved from [http://www.census.gov/population/www/socdemo/hispanic/files/Internet\\_Hispanic\\_in\\_US\\_2006.pdf](http://www.census.gov/population/www/socdemo/hispanic/files/Internet_Hispanic_in_US_2006.pdf)
- U.S. Census Bureau (2008a). Population profile of the United States. National population projections. Retrieved from <http://www.census.gov/population/www/pop-profile/natproj.html>
- U.S. Census Bureau. (2008). B03002. Hispanic or Latino origin by race – Universe: TOTAL POPULATION. Retrieved from [http://factfinder.census.gov/servlet/DTTable?\\_bm=y&-state=dt&-ds\\_name=ACS\\_2008\\_1YR\\_G00\\_&-\\_geoSkip=0&-mt\\_name=ACS\\_2008\\_1YR\\_G2000\\_C03002&-redoLog=false&-skip=0&-geo\\_id=01000US&-\\_showChild=Y&-format=&-\\_lang=en&-toggle=ACS\\_2008\\_1YR\\_G2000\\_C03002](http://factfinder.census.gov/servlet/DTTable?_bm=y&-state=dt&-ds_name=ACS_2008_1YR_G00_&-_geoSkip=0&-mt_name=ACS_2008_1YR_G2000_C03002&-redoLog=false&-skip=0&-geo_id=01000US&-_showChild=Y&-format=&-_lang=en&-toggle=ACS_2008_1YR_G2000_C03002)
- Walker, S., & Brown, O. (1996). The Howard University research and training center: A unique resource. *American Rehabilitation*, 22, 27-33.
- Wheaton, J. E. (1995). Vocational rehabilitation acceptance rate for European Americans and African Americans: Another look. *Rehabilitation Counseling Bulletin*, 38, 224-231.

- Wheaton, J. E., Wilson, K. B., & Brown, S. M. (1996). The relationship between vocational rehabilitation services and the consumer's race, gender, and closure status. *Rehabilitation Counseling Bulletin*, 40, 116-133.
- Wilson, K. B. (2000). Predicting vocational rehabilitation acceptance based on race, education, work status, and source of support at application. *Rehabilitation Counseling Bulletin*, 43, 97-105.
- Wilson, K. B., Harley, D. A., McCormick, K., Jolivette, K., & Jackson, R. (2001). A literature review of vocational rehabilitation acceptance and explaining bias in the rehabilitation process. *Journal of Applied Rehabilitation Counseling*, 32, 24-35.
- Wilson, K. B., Harley, D. A., & Alston, R. J. (2001). Race as a correlate of vocational rehabilitation acceptance: Revisited. *The Journal of Rehabilitation*, 67(3), 35-41.
- Wilson, K.B., Alston, R. J., Harley, D. A., & Mitchell, N. A. (2002). Predicting VR acceptance based on race, gender, education, work status at application, and primary source of support at application. *Rehabilitation Counseling Bulletin*, 45(3), 132-143.
- Wilson, K. B. (2002). The exploration of vocational rehabilitation acceptance and ethnicity: A national investigation. *Rehabilitation Counseling Bulletin*, 45, 168-176.
- Wilson, K. B. (2005). Vocational Rehabilitation Closure Statuses in the United States: Generalizing to the Hispanic/Latino Ethnicity. *Journal of Applied Rehabilitation Counseling*, 36(2), 4-12.
- Wilson, K. B. & Senices, J. (2010). Access to Vocational Rehabilitation Services for Black Latinos with Disabilities: Colorism in the 21<sup>st</sup> Century. In F. E. Balcazar,

Y. Suarez-Balcazar, T. Taylor-Ritzler, and c. B. Keys (Eds.), *Race, Culture, and Disability Rehabilitation Science and Practice* (pp. 81-96). Sudbury, Massachusetts: Jones and Bartlett Publishers.

Wilson, K. B. & Senices, J. (2005). Exploring the Vocational Rehabilitation Acceptance Rates for Hispanics Versus Non-Hispanics in the United States. *Journal of Counseling Development*, 83, 86-96.

Wilson, K. B. & Senices, J. (2008). Skin color and Latinos with disabilities: expanding what we know about colorism in the United States. In R. E. Hall (Ed.), *Racism in the 21<sup>st</sup> Century* (pp. 171-192). New York, NY: Springer Publishing.