DISSERTATION

DOUBLE DISADVANTAGE:
THE UNIQUE CHALLENGES HISPANICS WITH DISABILITIES FACE IN THE WORKPLACE

Submitted by

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WE HEREBY RECOMMEND THAT THE DISSERTATION PREPARED UNDER OUR SUPERVISION BY CHRISTOPHER L. LOVATO ENTITLED DOUBLE DISADVANTAGE: THE UNIQUE CHALLENGES HISPANICS WITH DISABILITIES FACE IN THE WORKPLACE BE ACCEPTED AS FULFILLING IN PART REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY.

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ABSTRACT OF DISSERTATION

DOUBLE DISADVANTAGE: THE UNIQUE CHALLENGES HISPANICS WITH DISABILITIES FACE IN THE WORKPLACE

This dissertation examines an expected interaction between ethnicity and disability status when predicting organizational decisions. Specifically, two studies investigated whether "double disadvantage" effects occur among Hispanics with disabilities. In Study 1, data from 27 million individuals in the 2000 U.S. Census revealed a lower rate of employment and a higher rate of poverty for Hispanics with disabilities as compared to reference groups (i.e., Hispanics without disabilities, Whites with disabilities, and Whites without disabilities). Further, Hispanics with a disability had an employment rate that was 26% lower and a poverty rate that was 126% higher than expected based on their proportion in the total population. As hypothesized, a significant interaction between ethnicity and disability status was found. In addition, exploratory analyses found a significant 3-way interaction between ethnicity, disability status, and sex.

In Study 2, a within subjects design was used with a paper-people methodology. Specifically, 157 managers with experience in selection made employment decisions based on fictitious resumes reflecting Hispanics with disabilities and the reference groups (i.e., Hispanics without disabilities, non-Hispanics with disabilities, and non-Hispanics without disabilities). Each manager reviewed four fictitious resumes (one from each group) and recommended whom to interview, whom to select into two job levels, starting

salary, number of stock options granted, and placement into a development program. Hispanics with disabilities were hypothesized to experience more negative outcomes than the reference groups. The hypotheses were not supported and double disadvantage effects were not found in Study 2. In fact, Hispanics were recommended more often than non-Hispanics for interviews granted, higher level job placements, and inclusion in development programs.

Discrepancies in the results of the two studies may be attributed to the organizational access outcomes used, social desirability effects, or methodological limitations. Implications of the research as well as future research suggestions are discussed.

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This dissertation is dedicated with the greatest love and affection to my wife, Christa Paulson Lovato. I could not have written this without her encouragement, sacrifice, strength, and wisdom. She inspires me each and everyday. And to Mason and Isabella for teaching me the importance of creativity and lifelong learning, the meaning of unconditional love, the value of having fun, and the power of humor. I am so very proud of both of them. Boogautch!

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Chapter 1

Double Disadvantage:

The Unique Challenges Hispanics with Disabilities Face in the Workplace

Legislation such as the Civil Rights Act of 1964 and the Americans with Disabilities Act of 1990 (ADA), prohibit employment discrimination on the basis of sex, race, ethnicity, national origin, religion, age (over 40), and disability. Despite this legal protection, however, discrimination exists in the workplace. Ethnic minorities and people with disabilities continue to be the target of prejudice, stereotypes, bias, and discrimination in employment decisions (NCCJ, 2000; for reviews of racial discrimination see Cox, 1994; James & Khoo, 1991; Ralston, 1988; for reviews of disability-based bias see Braddock & Bachelder, 1994; Colella, 1996; Stone & Colella, 1996).

Based on the volume of research related to workplace discrimination against ethnic minorities, many individuals would conclude that prejudice still exists in American organizations. Similarly, since the emergence of the ADA, research on disabilities has established the existence of bias and prejudice against people with disabilities in the workplace. However, when an individual is a member of two protected groups, such as a Hispanic with a disability, the implication for discrimination is unclear in the literature. Hispanics with disabilities would likely experience some degree of workplace prejudice but the extent of this "double disadvantage" effect is unknown. In this dissertation, the term "double disadvantage" refers to the potential negative repercussions felt by an individual in two disadvantaged or legally protected classes.

Hispanics with disabilities could be impacted by multiple sources of stereotypes and prejudices. Several scenarios exist based on these additional sources of stereotypes and prejudices: (1) no additional discrimination beyond that expected of one protected group; (2) an additive effect of the two identities on discriminatory outcomes; (3) an interactive effect in which the resulting reaction to Hispanics with disabilities goes beyond the simple combination of both Hispanic and disability-based bias; (4) or, a negative or sympathy effect whereby one factor cancels the impact of the second, resulting in little or no bias.

Understanding the treatment of Hispanics with disabilities is important because they may experience a greater number of barriers to job opportunities, reduced chances of advancement, and more frequent job terminations. Each of these outcomes may not only result in major economic consequences for the disadvantaged individual, but also result in serious legal repercussions for organizations. Much of the existing research on discrimination and prejudice defines an individual in terms of membership in only one group rather than the reality that individuals often belong to multiple groups, including multiple protected classes. The research that has examined multiple group membership is primarily theoretical in predicting outcomes, with little to no empirical data collected to support predictions.

In this dissertation, two studies were conducted to further understand the workplace experiences of Hispanics who also have a disability. In Study 1, "double disadvantage" effects are explored using Census data in relation to employment and poverty rates. Although this study focused on Hispanics with disabilities, exploratory analyses for other groups were conducted as well. In Study 2, employment decisions

based on fictitious job applicants are examined for bias against individuals with disabilities, Hispanics with disabilities, and Hispanics without disabilities. Study 1 attempts to establish the existence of "double disadvantage" effects in *impact-level* work outcomes *across jobs*. Study 2 provides a more in-depth analysis of "double disadvantage" effects among job applicants for *decision-level* work outcomes in *two specific jobs*.

The literature on discrimination against the separate groups of ethnic minorities and individuals with disabilities will first be reviewed. Next, research on prejudice and bias against double protected groups such as women with disabilities will be discussed. In addition, the limited evidence and literature that exists on ethnic minorities with disabilities, particularly Hispanics with disabilities, will be covered.

Changing Demographics

The growing number of ethnic minorities and people with disabilities in the U.S. will play an important role in minimizing the impact of a predicted shortage in the labor force attributable to changing demographics (Fullerton, 1999). "*Workforce 2000*" predicted that 85% of the additions to the workforce would come from groups previously underrepresented, a prediction that has since become a reality (Bolick & Nestleworth, 1988; Johnson & Packer, 1987). In the 2000 Census, Hispanics comprised more than 12.5% of the U.S. population at 35.3 million people (Department of Labor, 1999; Grieco & Cassidy, 2001; Joinson, 2000). However, this figure rose to 13% or 38.8 million in 2003, allowing Hispanics to surpass African-Americans as the country's largest minority group (El Nasser, 2003). By 2020 Hispanics are predicted to add more people to the U.S.

population every year than all other ethnic minority groups combined (Department of Labor, 1999).

Despite these shifting demographics, Hispanics are underrepresented in upper-level jobs (Cheatham, 1989; Glass Ceiling Commission, 1995). From the 2000 Census, Whites (non-Hispanic) made up 36.6% of the workers in management and professional occupations compared to 18.1% for Hispanics. However, Hispanics made up 21.8% of the workers in service-related occupations, while Whites made up only 12.8% of this workforce (Fronczek & Johnson, 2003). Similarly, only 249 Hispanic executives held the title of Vice President in the 2001 list of Fortune 1000 companies and only 1.6% of the Fortune 500 companies have a Hispanic member on their board of directors (Harris, 2001). According to Jackson and Schuler (1990), unless are successfully integrated into the workforce, they will become even more underrepresented in higher level jobs. This could lead to further racial segregation, racial tension, and negative organizational outcomes such as lower pay, lower job levels, and lower performance ratings.

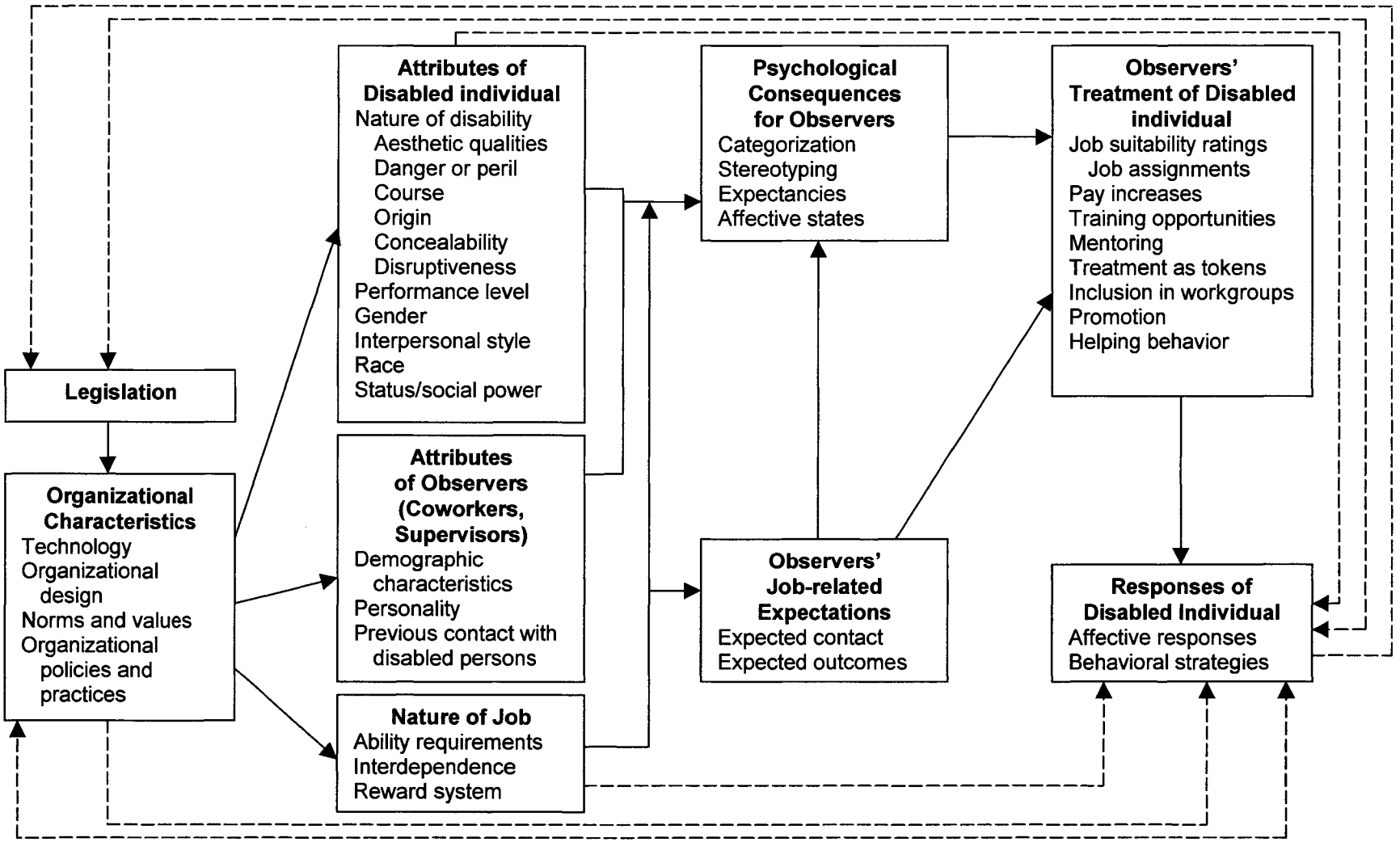
Additions to the workforce will also include larger numbers of people with disabilities, a group typically underrepresented in the workforce (Department of Labor, 1999; Johnson & Packer, 1987; Waldrop & Stern, 2003). According to Fullerton (1999), the average age of the workforce is increasing, while there are fewer young entrants. As Americans age, they face a greater likelihood of having a disability (Bureau of the Census, 1994; Waldrop & Stern, 2003). As more individuals with disabilities enter the workforce and more individuals in the workforce are becoming disabled as they age, the importance of understanding disability-based workplace issues intensifies.

Research Model

Model of disabled individuals in organizations. Stone and Colella (1996) proposed a model of factors affecting the treatment of disabled individuals in organizations (see Figure 1). As illustrated in the model, the authors theorize that person characteristics (i.e., attributes of the disabled individual, the attributes of the observers), environmental factors (i.e., legislation), and organizational characteristics (e.g., values, policies, the nature of the job) impact the treatment of people with disabilities in organizations. The model in Figure 1 indicates that person characteristics, environmental factors, and organizational characteristics are mediated by observers' cognitions (e.g., stereotyping, expectancies) and affective states. In addition, the responses of disabled individual's circle back to alter observers' expectancies and organizational characteristics (indicated by the dashed lines in Figure 1).

This model is particularly relevant to this dissertation because race and gender are included as attributes of disabled individuals in predicting their treatment within organizations. This was the only model found in the literature containing both ethnicity and disability as important characteristics in understanding an individual's treatment at work. Though this model offers a detailed view of several factors affecting the treatment of disabled individuals, testing the model would require numerous studies because of its' size and complexity. Therefore, Stone and Colella's model is provided as an initial framework for this research. Study 1 will investigate specific person characteristics of Stone and Colella's model but will take a broader perspective when measuring the treatment outcomes. Study 2 will examine additional person characteristics while taking the same detailed perspective on outcomes as Stone and Colella's model.

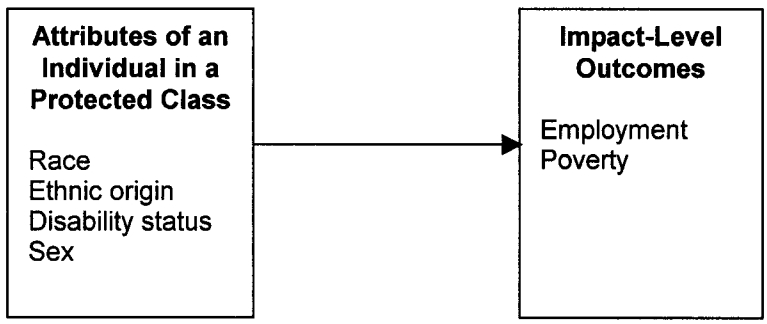
Figure 1.
Model of Factors Affecting the Treatment of Disabled Individuals in Organizations (Stone & Colella, 1996).



Note. From "A Model of Factors Affecting the Treatment of Disabled Individuals in Organizations," by D. L. Stone and A. C. Colella, 1996, Academy of Management Review, 21, p.355.

Impact model for double disadvantage effects in organizations. Because Stone and Colella's model does not reflect a broad, impact-level approach, an alternate model is introduced to explain the larger outcomes relevant to Study 1 (see Figure 2). This model is considered a broad impact-level view because it spans across organizations, jobs, and characteristics of the observers, and the outcomes are secondary to those used in Stone and Colella's model (see Figure 1).

Figure 2.
Impact Model of Double Disadvantage Effects in Organizations



In the Impact Model, the attributes of an individual in a protected class are analogous to the attributes of a disabled individual as seen in Stone & Colella's model. The individual decision-level outcomes (e.g., job suitability, pay increases) in Stone and Colella's model are expected to mediate the final impact-level outcomes (i.e., employment, poverty). In Study 1, ethnicity, disability status, and sex are used as predictors of employment and poverty. Literature relating prejudice and discrimination to these variables is discussed in the next sections of this chapter.

Linkage between Study 1 and Study 2. Both studies aimed to determine whether Hispanics with disabilities experienced double disadvantage effects in organizations.

Study 1 takes a high-level point of view using a large data set spanning across job type, organization/industry, and observer characteristics. Based on the findings of Study 1, Study 2 was constructed to take an individual decision-level point of view of double disadvantage effects among two jobs, a small set of organizations, and treatment outcomes related to a candidate's initial entry into the organization. If double disadvantage effects could be found with a large and statistically powerful data set, then research on the factors that contribute to those effects could be investigated.

Bias Against Protected Groups

The extensive research on workplace discrimination reflects the complex web of underlying factors and processes surrounding discrimination in organizations. In this section, research on the advantages of diversity in organizations is reviewed, followed by a brief clarification and definition of relevant terms. Next, research on outcomes and causes of bias and prejudice against ethnic minorities is explored, followed by a similar analysis of research on people with disabilities.

Advantages of diversity. Cox and Blake (1991) have suggested several ways in which cultural diversity can offer additional competitive advantages to organizations (see also Cox, 1994; Jackson, 1992). These advantages include cost reduction in finding the right person for the right job, increased ease of resource acquisition, multinational marketing advantages, greater innovation and creativity, better decision making, improved problem solving from different knowledge perspectives, and increased fluidity and flexibility to react to changes (see also Cox, 1994; James, Clark & Cropanzano, 1999). Research on advantages of diversity in the workplace often excludes people with disabilities. However, Roberts (1996) found that disability-based diversity offers benefits

similar to race, gender, or ethnicity-based diversity. Despite these advantages of diversity to organizations, prejudice and bias are still frequently found in the workplace.

Terms. There have been many disagreements in psychological literature regarding the terms reflecting race and ethnicity classifications (Helms & Telleyrand, 1997; Phinney, 1996). In addition, the general use of the term "minority" is becoming increasingly confusing given that in some contexts it is unclear if "minority" refers to ethnic membership or a numerical based group. In this dissertation the federal definitions issued by the Office of Management and Budget (1997) are used since these are the legal definitions to which employers are held and the use of any other definitions may hinder the application of the findings to organizations. The term "ethnic minority" is specifically used to refer to Hispanics or Latinos, African-Americans, Asians, American-Indians and Alaskan Natives, Native Hawaiians or other Pacific Islanders.

The term "disability" is used as defined by the ADA (U.S. Public Law 101-336, 1990). This definition states, "An individual with a disability is a person who has a) a physical or mental impairment that substantially limits one or more major life activities; b) a record of such impairment; or c) is regarded as having such an impairment." In addition, the term "double disadvantage" refers to the potential negative repercussions felt by an individual in two disadvantaged or legally protected classes. However, before exploring this concept, literature on bias and prejudice against ethnic minorities will be discussed.

Bias against ethnic minorities. A survey conducted by the National Conference for Community and Justice (NCCJ, 2000) found that in just one month, 42% of African-Americans and 16% of Hispanics reported experiencing a least one episode of

discrimination. While shopping was the first most common location of this discrimination, the workplace was the second most common.

Evidence of workplace discrimination against ethnic minorities has been documented in relation to many organizational functions. Discrimination and prejudice effects against ethnic minorities impacts employment decisions including recruitment and hiring (Braddock & McPartland, 1987; Department of Labor, 1999; James, Khoo, & Harbold, 1996; McConahay, 1983; Ralston, 1988); job assignment (Cheatham, 1989); access to training and promotion opportunities (Braddock & McPartland, 1987), career advancement (Greenhaus & Parasuraman, 1993); performance evaluation (McConahay, 1983; Ralston, 1988); salary determination and job termination (Braddock & McPartland, 1987; U.S. EEOC, 1992). Many comprehensive reviews have been compiled on this topic (see Cox, 1994; James & Khoo, 1991; James, Wolf, Lovato, & Byers, 1994; Kravitz, Harrision, Turner, Levine, Chaves, Brannick, et al., 1997; Morrison & Von Glinow, 1990).

In addition to the economic impact workplace bias and prejudice can have on ethnic minorities (e.g., lower salary), the physical and mental well-being of these individuals can be negatively affected. For instance, workplace prejudice and discrimination reported by ethnic minorities was found to relate to higher blood pressure (James, Lovato, & Khoo, 1994), greater stress and health problems (Radhakrishnan, 1998), and poorer mental health (Schneider, 1998).

When discussing discrimination and prejudicial behavior it is beneficial to review various forms of racism seen in the literature. In the past, classic racism was easily defined and identified because the underlying message was that Whites are inherently

superior to minorities solely on the basis of race (Sidanius, Pratto, & Bobo, 1996). This version of racism is characterized by aggressive prejudicial behavior and overt acts against ethnic minorities.

Some researchers believe this form of racism has been replaced in part by subtler prejudicial behavior that is often difficult to see, yet is regarded as more severe and widespread in the workplace. Gaertner and Dovidio (1986), for example, describe aversive racism as a combination of racial prejudice and an egalitarian ideology. In contrast, symbolic racism is said to be a combination of racial prejudice and a conservative ideology (McConahay & Hough, 1976; Sears, 1988). While there is disagreement on how to conceptualize modern racism, there is agreement that modern racism can be difficult to measure because of its subtlety. Murrell, Dietz-Uhler, Dovidio, Gaertern, and Drout (1994) stated that assessing aversive racism through self-report measures is not possible. The studies in this dissertation examine workplace outcome measures that may reflect a subtle and overt bias toward certain groups.

James et al. (1996) identified several causes of discrimination and prejudice in the workplace. These factors include differential social status in occupations, cognitive impacts of solo effects, and social support difficulties including differences with available mentors. Mather (1996) claims these factors can be labeled "systemic discrimination" or unconscious practices of business-as-usual in organizations.

Braddock and McPartland (1987) argue that discrimination impacts ethnic minorities at various stages of employment: recruitment, job entry, promotions, and salary. The authors found that discrimination in organizations begins with recruitment via segregated social networks in which employers often identify potential job candidates

by friendship and other informal networks that usually exclude minorities. Similarly, at the job entry stage, employers select candidates based on experiences that ethnic minorities often cannot easily obtain. For instance, higher unemployment in neighborhoods with a higher concentration of ethnic minorities could mean lower quality work experience. Finally, selective access to training opportunities results in closed internal labor markets and acts as an obstacle in job promotions, which thus impacts salary.

Bias against people with disabilities. Individuals with disabilities have been called the "contingent labor force" (Yelin, 1991) since they, like ethnic minority workers, are often among the first to lose their jobs during organizational restructuring. Disabled individuals also experience bias when it comes to career advancement. Braddock and Bachelder (1994) found that the main barriers to career advancement among persons with disabilities stem from inappropriate myths and stereotypes, environmental barriers, and limited access to assistive technology.

In Stone and Colella's (1996) model (see Figure 1), the attributes of disabled individuals (e.g., visibility of disability) impact the subsequent stereotypes and expectancies of the observers (i.e., coworkers and supervisors). The authors predict that these psychological consequences affect the treatment of disabled individuals in employment decisions such as job assignments, pay increases, and training opportunities.

Stereotypes often associated with people with disabilities include poor performance, increased absenteeism, high job turnover, difficulties getting along with co-workers, and more on-the-job accidents (Lester & Caudill, 1987; Satcher, 1992; Stevens, 1986). Though research has largely refuted these myths, there is wide variability in some

of the capabilities of disabled individuals (Greenwood & Johnson, 1987; Lee & Newman, 1992; Louis Harris & Associates, 1991).

As with the literature on ethnic minorities in the workplace, research on attitudes and actions toward people with disabilities in the workplace has provided evidence that they are treated differently than people without disabilities. These differences are seen in negative outcomes among the following employment decisions: selection (Bolton & Roessler, 1985; Bottrill & Hazer, 1995; Schloss, 1991); job placement (Blanck, 1991; Gouvier, Steiner, Jackson, Schlater, & Rain, 1991); compensation (Bowe, 1992; Louis Harris & Associates, 1991); performance expectations (Bordieri & Drehmer, 1996); performance ratings (Czajka & DeNisi, 1988; Hastorf, Northcraft, & Picciotto, 1979; Varma, Colella, & DeNisi, 1996); promotions (U.S. EEOC, 1992); and terminations (U.S. EEOC, 1994). See Braddock and Bachelder (1994) or Stone and Colella (1996) for complete reviews on people with disabilities in the workforce.

In addition to the organizational functions mentioned above, job accommodations for people with disabilities can result in negative outcomes. That is, an individual with a disability who requests a job accommodation is at times looked upon unfavorably by those without disabilities and is consequently evaluated lower in terms of employability, perceived performance, and career potential (Bottrill & Hazer, 1995; Cleveland, Barnes-Farrell, & Huestis, 1996; Katzman, 1998). For a review of this literature see Colella (2001).

Bias has also been found within specific types of disabilities creating a "disability hierarchy" in which attitudes toward people with disabilities depend upon the specific disability in question (O'Keeffe, 1994). The typical disability hierarchy, from most

favorable to least favorable, is as follows: physical disabilities (e.g., paraplegic); sensory disabilities (e.g., blindness); learning disabilities (e.g., dyslexia); psychological disabilities (e.g., depression); and addiction-related disabilities (e.g., alcoholism; Cleveland et al., 1996; Florian, 1978; Lee & Newman, 1992; Mancuso, 1990; Wright, 1993). Based on this hierarchy, individuals with visible disabilities (such as many physical disabilities) are often perceived more favorably than individuals with invisible disabilities (such as mental disabilities).

However, contrary to the disability hierarchy, some invisible disabilities have been evaluated more favorably than visible disabilities (Gouvier et al., 1991; Lovato, 1997; Westbrook, Legge, & Pennay, 1993). One explanation of these conflicting findings is in the "fit" between the specific disability and the nature of the job (Colella, 1996; Colella, DeNisi, & Varma, 1998; Colella & Varma, 1999; Stone & Colella, 1996). For example, Colella, DeNisi, Varma, and Lund (1994) found that persons with a visible, physical disability (cerebral palsy) were rated less favorably for a job in which appearance was said to be important (retail sales clerk).

Similarities among ethnic minorities and people with disabilities. People with disabilities can be considered a "minority" in their own right (Wertleib, 1985). Like ethnic minorities, individuals who are disabled are often evaluated first in terms of group membership, and second in terms of skills or abilities possessed (Wertleib, 1985). For example, someone may say, "She is a 'blind' musician," rather than, "She is a musician who is blind." Research has also found that those who reject various racial or ethnic groups tend to reject people with disabilities as well (English, 1977). Kamieniecki (1985)

noted that both ethnic minorities and people with disabilities can blend in or stick out in society depending on the visibility of their ethnicity or disability.

Wertleib (1985) argues that individuals with a disability face many of the same issues and possess many of the essential features common to ethnic minority groups: (1) subordination, prejudice, discrimination, and exploitation; (2) "socially important" characteristics common to all members in the group; (3) group solidarity; (4) membership not on a voluntary basis although everyone has the potential to "become" disabled; and (5) members marrying people within the group.

People with disabilities differ from ethnic minorities in that the former can be surrounded by inherent and specific limitations (e.g., traveling with blindness, communication and deafness). Furthermore, people with disabilities often do not receive the same kind of familial support against prejudice and discrimination or benefit from the family pride that exits among ethnic minorities (Best, 1967).

Bias Against Double Protected Groups

Although research on bias against double protected groups is limited, it is beneficial to examine this work before discussing ethnic minorities with disabilities. Researchers have used various terms to refer to an individual who falls into more than one protected group. For instance, Malveaux and Wallace (1987) used the phrase "double disadvantage" and defined it as, "membership in both a minority group and the gender group that has the least amount of economic power" (p. 265). Saulet (2002) described the impact of attitudes African-American women face as "double jeopardy." In this dissertation, Malveaux and Wallace's (1987) term "double disadvantage" is used to refer to the potential negative repercussions felt by an individual in two disadvantaged or

legally protected classes. This definition differs from Malveaux and Wallace's and Saulet's by not being limited to particular protected groups but rather open to any paired combination of disadvantaged groups. Existing research on bias against double protected groups is discussed below.

Ethnic minority women. Some researchers have noted the unique position of ethnic minority women in the workplace (Almquist & Wehrle-Einhorn, 1978; Betsey, 1994; Malveaux & Wallace, 1987). Saulet (2002) notes that African-American women face a "double jeopardy" of both race and sex discrimination reflected in the underrepresentation of African-American women in professional occupations compared to that of White women, African-Americans in general, and White men. This may be related to the observation that ethnic minority women with White male supervisors have a "double difference" which can hinder a quality mentoring or supportive relationship (Tupahache, 1986).

Similarly, James et al. (1996), in a review of ethnic minority women and technology, reason that since ethnic minority women integrate two "low-status" characteristics, they should be among the lowest status in society. The authors state that with the blend of gender and ethnicity the result maybe an additive combination of barriers such as discrimination, internalized stereotypes, and limited access to and experience with technology. It was noted, however, that there might be an interactive effect seen among these variables.

Additionally, for ethnic minority women, the sex-role stereotypes of the majority culture often conflict with the sex-roles found in their native culture (James et al., 1996). For example, some Mexican-American women are expected to assume the traditional role

of housewife which then conflicts with many American expectations that women will pursue an education and a professional career (Gonzales, 1988). Similar results have been found for Asian-American women (Tong, 1971) and African-American women (Slaney & Russell, 1987) who, as a result, have been overrepresented in the labor market as private household workers (Malveaux & Wallace, 1987).

Employment statistics from Malveaux and Wallace (1987) reveal that there were proportionately fewer African-American female managers than Hispanic female managers who, in turn, were seen less frequently than White female managers. Similarly, ethnic minority women were more likely to hold blue-collar jobs than White women, and unemployment rates of African-American and Hispanic women were higher than those of White women (Malveaux & Wallace, 1987). It should be noted that these figures are somewhat dated; Study 1 of this dissertation reports more recent employment rates of these groups from the 2000 Census.

Within the technology industry, ethnic minority women secure fewer technology positions than do ethnic minority males or White females (Cheatham, 1989). James et al. (1996) identified several factors which may be responsible for the underrepresentation of ethnic minority women in advanced technology careers: social, cultural, and educational barriers; values mismatches; self-fulfilling prophecies; limited access to informal networks; and a lack of support within organizations. Similarly, Saulet (2002) notes that it is the acceptance of sexism, racism, stereotyping, discrimination, and perceptions of incompetence that contributes to the underrepresentation of ethnic minority women in professional positions.

Double disadvantage effects among ethnic minority women have been acknowledged in the literature, and some barriers to the advancement of their employment and career success have been identified. These barriers appear to contribute to the negative employment statistics that are available on ethnic minority women.

Women with disabilities. Double disadvantage effects also appear to impact women with disabilities. Men with disabilities were more likely to be employed in management and professional positions than women with disabilities (Pfeiffer, 1991). Women with disabilities were paid 85% of what men with disabilities received, and only 60% of what men without disabilities were paid (Baldwin, Johnson, & Watson, 1993). It is noteworthy that this salary difference exits despite the fact that women with disabilities reported higher levels of education than men with disabilities. In general, women with disabilities are less likely to be employed than women without disabilities or men with disabilities; and if employed, they work in lower paying, lower skilled service and domestic jobs (Baldwin, Johnson, & Watson, 1993; Blanck, 1991; Bowe, 1992; Braddock and Bachelder ,1994; Pfeiffer, 1991).

In contrast, Stone and Colella (1996) state that disabled men are seen as less suitable for jobs, are less frequently included in work group activities, and are mentored less often than disabled women. They base their reasoning on the idea that characteristics associated with people with disabilities, such as lack of strength or endurance, are inconsistent with the traditional view of males (i.e., strong and powerful). Characteristics associated with disabled persons are not as inconsistent when discussing the traditional view of females. Despite Stone and Colella's prediction, the hypotheses of Study 1 follow the discrimination research previously cited: since women with disabilities

experience two sources of bias and prejudice, they would experience more negative employment outcomes than men with disabilities.

Additional double disadvantaged groups. The existence of a combined age and ethnicity bias has also been found as further evidence of double disadvantage (Kasschau, 1977). In addition, ethnic minority women with disabilities might experience "triple disadvantage" effects. Wright and Leung (1993) refer to this possibility as "triple jeopardy." Despite these theories, no empirical evidence of "triple disadvantage effects" or "triple jeopardy" has been found in the literature. Study 1 of this dissertation includes an exploratory analysis of this "triple disadvantage effect."

Bias Against Ethnic Minorities With Disabilities

In a review of the research on individuals with disabilities, Braddock and Bachelder (1994) state that employment and advancement opportunities for ethnic minorities with disabilities are severely limited due to "dual sources of discrimination." Similarly, in Stone and Colella's (1996) model of factors influencing individuals with disabilities in organizations, they predict that negative reactions to persons with disabilities may be exacerbated by their race or ethnicity. They argue that negative stereotypes already associated with ethnic minorities may augment the negative stereotypes associated with people with disabilities. The authors state that an ethnic minority who is disabled, as compared to a White person with a disability, would be less likely to (a) be recommended for challenging job assignments; (b) be included in work group activities; (c) receive favorable performance evaluations; and (d) be recommended for career advancement opportunities. Study 2 of this dissertation tested predictions (a) and (d) and are discussed further in the Introduction to Study 2.

On the other hand, ethnic minorities with disabilities may experience increased access to employment opportunities compared to those in just one protected class because of an individual's desire to appear inclusive. Consistent with modern racism, individuals may not want to reveal biases against ethnic minorities with disabilities since doing so may be more obvious than actions against individuals in only one protected class. Similarly, organizations attempting to increase the number of employees from diverse backgrounds or organizations utilizing hiring quotas may favor individuals from more than one diverse background. While this favoritism may stem from the belief that hiring double protected individuals may demonstrate a stronger commitment to diversity in hiring, Stone and Colella (1996) state that hiring quotas may perpetuate individual biases and lead to these persons being treated as tokens. It is expected that stereotyping and discrimination will overshadow the possible benefits in increased access to organizations. Study 2 of this dissertation examines employment outcomes reflecting both initial access to organizations and one measure of an early career development opportunity.

Employment statistics. Following are reviews of employment statistics for ethnic minorities with disabilities. From the 2000 U.S. Census, disability rates among working age populations were significantly lower among Whites (16.2%) than Hispanics (24.0%) and African-Americans (26.4%; Waldrop & Stern, 2003).

Bowe (1983) found that unemployment was highest among African-Americans with disabilities (26%) followed by Hispanics with disabilities (23%), both of which were higher than Whites with disabilities (16%). Only 16% of African-Americans with disabilities were employed (26% for Whites with disabilities) and only 22% were in the labor force (employed or looking for work). Almost half of all African-Americans with

disabilities (47%) and more than one-third (36.5%) of all Hispanics with disabilities had incomes in 1980 that were below the poverty level. On the other hand, only 19% of Whites with disabilities had incomes below the poverty level, whereas over one-third (36%) of them had incomes at least three times higher than the poverty level. In Study 1 more recent data on unemployment and poverty were collected and are discussed in the Results section of Study 1.

The strongest evidence of a potential double disadvantage effect in the literature comes from McNeil (2000) using 1996 data from the Survey of Income and Program Participation conducted by the Bureau of the Census. Hispanics with disabilities and African-Americans with disabilities were found to have lower employment rates (41.9% and 35.0%, respectively) than Whites with disabilities (54.3%), Hispanics and African-Americans without disabilities (77.3% and 82.3%, respectively), and Whites without disabilities (86.0%). Hispanics and African-Americans with disabilities also had lower median annual earnings ($12,504 and $14,842, respectively) than Whites with disabilities ($18,936), Hispanics and African-Americans without disabilities ($17,156 and $19,746, respectively), and Whites without disabilities ($25,474). Furthermore, Hispanics and African-Americans with severe disabilities had even lower employment rates (26.5% and 21%, respectively) and lower median annual earnings ($11,487 and $10,337, respectively) than the relevant groups above, including Whites with severe disabilities (34.4% and $14,255).

Although several years before McNeil (2000), Pfeiffer (1991) found that ethnic minorities with disabilities were less likely to obtain management and professional positions and often receive lower wages than White males with disabilities. Even with

the assistance of employment agencies and vocational counselors, the vocational outcomes of people with disabilities are less favorable for African-Americans than for Whites (Atkins & Wright, 1980).

Factors underlying bias against ethnic minorities with disabilities. Several individual and environmental factors may contribute toward more bias or result in negative employment outcomes for ethnic minorities with disabilities. These factors include limited social or family support (Belgrave & Walker, 1991; Wilson, 1988), low self-esteem (Belgrave & Walker, 1991; Wilson, 1988), perceptions that their disability is more severe than reality (Wilson, 1988), inadequate transportation source or community services (Belgrave & Walker, 1991; Wilson, 1988), and limited education and lack of long-term goals (Walker, 1988; Wilson, 1988).

In a report on African-Americans with disabilities, Banner (1988) proposed several barriers experienced by this group that may affect employment. These barriers include institutionalized racism, stereotypes, low employment levels, secondary disabilities exacerbating primary disabilities, high rates of illiteracy, and low quality rehabilitation therapy and corresponding participation rates.

Although several of these hypothesized factors affecting employment outcomes of ethnic minorities with disabilities may be under the control of the individuals affected, some are the result of workplace prejudice and bias. It is clear that ethnic minorities with disabilities likely face some type of double disadvantage based on past employment statistics and the predictions of researchers on this topic. However, it is not clear if one source of bias plays a larger part than another (i.e., ethnicity-based or disability-based

bias). Similarly, the nature of this expected double disadvantage is indeterminate since it is unknown if it is an additive effect, an interactive effect, or some other relationship.

Of the literature that was cited on ethnic minorities with disabilities, only two studies were empirical investigations. Belgrave and Walker (1991) surveyed 75 African-Americans on factors thought to relate to their employment. Similarly, Wilson (1988) provided seven case studies of successful African-Americans to identify common themes. The findings of both of these studies were covered in the discussion of factors underlying bias against ethnic minorities with disabilities. Furthermore, no research exists on the perception or experiences of Hispanics with disabilities in the workplace despite the relative size of this population. With only two empirical studies on the subject and much speculation, there is a strong need for additional research on ethnic minorities (particularly Hispanics) with disabilities in the workplace.

Present Studies

This dissertation first examined possible indicators of double disadvantage effects in the workplace experienced by Hispanics with disabilities. Second, this dissertation investigated double disadvantage effects among specific employment decisions made by experienced management-level employees.

Two separate studies achieved the above purposes. In Study 1, a large data set was used as an exploratory analysis of double disadvantage effects for ethnicity and disability status in relation to employment and poverty rates. Study 2 used fictitious resumes to compare employment decisions for Hispanics with and without disabilities and non-Hispanics with and without disabilities.

Chapter 2

Study 1: Exploratory Analysis of Double Disadvantage Effects

This study used existing data from the 2000 U.S. Census gathered by the Bureau of the Census. Through the Bureau of the Census Internet site (www.census.gov), the public may access this large database. This investigation was considered exploratory, particularly for those hypotheses labeled secondary in purpose.

Hypothesis 1.1: The primary hypothesis of Study 1 predicts that Hispanics with disabilities experience double disadvantage effects resulting in lower rates of employment and higher rates of poverty than Hispanics without disabilities, Whites with disabilities, and Whites without disabilities. An exploratory analysis predicts these same outcomes among African-Americans with disabilities when compared to African-Americans without disabilities, Whites with disabilities, and Whites without disabilities.

Hypothesis 1.2: A secondary hypothesis predicts that Hispanic women experience double disadvantage effects resulting in lower rates of employment and higher rates of poverty than Hispanic men, White women, and White men. An exploratory analysis predicts these same outcomes among African-American women.

Hypothesis 1.3: Another secondary hypothesis predicts double disadvantage effects for women with disabilities resulting in lower rates of employment and higher rates of poverty than women without disabilities, men with disabilities, or men without disabilities.

Hypothesis 1.4: The final secondary hypothesis predicts a triple disadvantage effect for Hispanic women with disabilities resulting in lower rates of employment and higher rates of poverty than the comparison groups made up of Hispanics and Whites,

women and men, and people with and without disabilities. Similarly, an exploratory analysis predicts the same outcomes among African-American women with disabilities.

Chapter 3

Study 1: Method

Participants

Census data from the year 2000 were extracted from the Bureau of the Census Internet Web page (http://www.census.gov). All households in the 50 states and the District of Columbia were surveyed in the 2000 Census, resulting in a total population of 281,421,906. From this population, information on approximately 27,052,362 individuals was used in this study. This group included Whites, Hispanics, and African-Americans ages 21 to 64 who were in the civilian, non-institutionalized population. "Institutionalized" populations were excluded from this study, representing people under formally authorized, supervised care or custody in institutions (e.g., "patients" or "inmates"). The 21 to 64 year age range was selected to represent the general working-age population and is typically used as such by the Census Bureau. The final group included 51.2% females.

Design

The 2000 Census forms were mailed on April 1, 2000, to all households in the U.S. and the District of Columbia. The primary questionnaire was a "short form" that included six questions per person in the household: name, sex, age, household relationship (e.g., husband, daughter, grandparent), Hispanic origin, and race. Two additional questions were asked of the head of each household: the number of people in the household and whether the housing unit was owned or rented.

From the population, a sample of approximately 17% of the households received a longer questionnaire including: all the questions on the short form plus questions about

social characteristics (e.g., marital status, ancestry, disability), economic characteristics (income, employment status, occupation), physical housing characteristics (e.g., year housing structure built, number of rooms), and financial characteristics of housing (e.g., mortgage, rent, utilities). The longer form consisted of 53 questions for the head of the household and an additional 33 questions for each person in the household.

The 17% sample that received the longer questionnaire consisted of data from 27,052,362 qualified individuals (i.e., civilian, non-institutionalized population, ages 21 to 64). Using a 95% confidence interval, the Census Bureau estimated that this sample represents a population of approximately 159,131,544 individuals. The Census sample design was stratified by the following factors: counties and county equivalents, cities, incorporated places, Census designated places in Hawaii, minor civil divisions in certain states only, school districts, American Indian reservations, tribal jurisdiction statistical areas, and Alaska Native village statistical areas.

The Bureau of the Census promoted the 2000 Census with an advertising campaign of print and broadcast media as well as outdoor advertising. All households received an advance letter stressing the importance of the Census. The questionnaires were delivered between the 13th and 15th of March 2000, followed by a reminder postcard on April 1, 2000. The Census yielded an estimated 67% final response rate.

Independent Variables

The primary independent variables included ethnic minority status and disability status, with sex as a secondary variable. In addition, the following interactions were examined: ethnicity by disability; ethnicity by sex; disability by sex; and ethnicity by disability by sex. The ethnicity variable was made up of Hispanics (of any race), African-

Americans (not Hispanic or Latino), and Whites (not Hispanic or Latino descent). These ethnic minority groups were chosen because they represent the largest ethnic minority groups in the U.S. (Department of Labor, 1999).

Information on ethnic status was captured from two questions on the Census questionnaires. The first question was, "Is this person Spanish/Hispanic/Latino?" followed by five choices (i.e., "No" plus four Spanish/Hispanic/Latino choices). The second question was, "What is this person's race?" followed by a choice of 15 race categories. Respondents could select one or more race categories to indicate their racial identities. Nearly 98% of respondents reported only one race (Grieco & Cassidy, 2001). Since ethnic origin (e.g., Hispanic) is independent from racial identity (e.g., White), the data were examined from Whites and African-Americans reporting no Hispanic or Latino origin to separate the independent variables. Similarly, the classification of Hispanics of any race was used to capture all individuals reporting their Hispanic origin. The Bureau of the Census uses this method of classification in their research involving race and ethnic origin (Grieco & Cassidy, 2001). Forty-eight percent of Hispanics indicated a White race, while 42% reported "some other race" with a write-in responses typically including Mexican, Puerto Rican, or Cuban descent (Grieco & Cassidy, 2001).

Disability status was captured from one question on the Census: "Does this person have any of the following long-lasting conditions: a) Blindness, deafness, or a severe vision or hearing impairment? b) A condition that substantially limits one or more basic physical activities such as walking, climbing stairs, reaching, lifting, or carrying?" This question is consistent with the definition of a disability used by the Americans with Disabilities Act of 1990. Specific disabilities held by participants were not analyzed in

this study; rather, double disadvantage effects across *all disabilities* were investigated. Sex of participants was captured from one question, "What is this person's sex?"

Dependent Variables

Employment rate and poverty rate represent the two impact-level dependent variables selected for this study. Employment was operationally defined by the Bureau of the Census (2002) as "all civilians 16 years old and over who were either (1) 'at work' -- those who did any work at all during the reference week as paid employees, worked in their own business or profession, worked on their own farm, or worked 15 hours or more as unpaid workers on a family farm or in a family business; or (2) were 'with a job but not at work' -- those who did not work during the reference week but had jobs or businesses from which they were temporarily absent due to illness, bad weather, industrial dispute, vacation, or other personal reasons." Excluded from the employed were those people whose only activity consisted of work around the house; unpaid volunteer work for religious, charitable, and similar organizations; and those on active duty in the United States Armed Forces. The reference week was defined as "the calendar week preceding the date on which the respondents completed their questionnaires." The reference week was not the same for all respondents (Clark & Weismantle, 2003). Employment figures were used rather than unemployment figures because the 2000 Census reports only employment numbers for the relevant groups used in this study.

Six questions in the Census were relevant to employment: (1) "Last week, did this person do any work for either pay or profit?" (2) "Last week, was this person on layoff from work?" (3) "Last week, was this person temporarily absent from a job or business?"

(4) "Has this person been informed that he or she will be recalled to work within the next 6 months or been given a date to return to work?" (5) "Has this person been looking for work during the last 4 weeks?" (6) "Last week, could this person have started a job if offered one, or returned to work if recalled?"

Employment estimates from the 2000 Census were generally lower than those of the official labor force data collected by the Bureau of Labor Statistics. This discrepancy exists because of differences in the criteria used for employment. Specifically, the Bureau of Labor Statistics asks individuals more employment qualifying questions, resulting in a greater number of individuals categorized as employed. Conversely, the 2000 Census asked fewer questions and collected less detailed information because it was based on samples from small geographic areas to provide one snapshot in time (Clark & Weismantle, 2003).

The second dependent variable, poverty, is based on the 1999 annual family income compared to 48 thresholds that take into account family size and number of family members under 18 years old. For example, the poverty threshold for one person with no children was $8,501 versus $13,423 for a family of four (two adults, two children). While actual annual salary would have been the preferred variable over poverty rate, it was not available across all independent variables from the 2000 Census results tables.

Employment and income-related variables are typically strong indicators of workplace discrimination and prejudice (see for example Bowe, 1992; Braddock & Bachelder, 1994; Ralston, 1988). Certainly, employment and poverty rates are also affected by many other factors (e.g., education). It is for this reason that Study 2 is

important since many of these factors are held constant in order to investigate biases in specific decision-level employment outcomes.

Chapter 4

Study 1: Results

The hypotheses were tested using a Chi-Square test for statistical independence. More in-depth statistical analyses were not feasible since individual-level data were not available from the Census Bureau. The data extracted from the Census web page (e.g., the total number of employed and unemployed Hispanic disabled females) was listed in table format. No inferences or assumptions were made to calculate the numbers for main effect or interaction groups. All differences labeled as "significant" were found to be statistically significant at $p < .001$ unless otherwise indicated. The range of significant employment rate comparisons were $\chi^2 = 136$ to 1,301,901 ($df = 1$, $n = 803{,}512$ to 40,925,327, $p < .001$). The range of poverty rate comparisons results were $\chi^2 = 343$ to 588,205 ($df = 1$, $n = 802{,}964$ to 40,771,837, $p < .001$).

All hypotheses of Study 1 were supported. See Table 1 for employment and poverty rates of all groups in the hypotheses. The interaction group of Hispanics with disabilities, as well as all other groups in two legally protected classes, consistently had lower employment rates and higher poverty rates than those in one or no protected class. Further, the three-way interaction group of Hispanic women with disabilities, as well as all other groups in three protected classes, had lower employment rates and higher poverty rates than those in two protected groups. The primary hypothesis of this study was supported in confirming that the relationship between ethnicity and disability status was a statistically significant ($p < .01$) interaction.

The large sample sizes used in this study contributed to the statistical significance of the hypothesis tests below. To adjust for these large sample sizes, a Phi-Coefficient

Table 1.

Study 1 Employment and Poverty Rates of Double & Triple Protected Groups.

	Protected Classes	Employment Rate	Poverty Rate
Hypothesis 1.1			
Hispanic Disabled	2	54.2%	23.8%
Hispanic Non Disabled	1	65.7%	17.8%
White Disabled	1	58.4%	14.8%
White Non Disabled	0	80.3%	5.7%
African-American Disabled	2	51.3%	27.1%
African-American Non Disabled	1	70.8%	17.2%
White Disabled	1	58.4%	14.8%
White Non Disabled	0	80.3%	5.7%
Hypothesis 1.2			
Hispanic Female	2	53.4%	21.6%
Hispanic Male	1	72.0%	17.1%
White Female	1	70.0%	8.2%
White Male	0	83.5%	6.3%
African-American Female	2	63.9%	22.7%
African-American Male	1	67.2%	16.5%
White Female	1	70.0%	8.2%
White Male	0	83.5%	6.3%
Hypothesis 1.3			
Disabled Female	2	51.7%	21.0%
Disabled Male	1	61.2%	16.1%
Non-Disabled Female	1	70.2%	9.8%
Non-Disabled Male	0	84.7%	7.3%
Hypothesis 1.4			
Hispanic Disabled Female	3	46.2%	26.7%
Hispanic Disabled Male	2	61.1%	21.3%
Hispanic Non-Disabled Female	2	55.6%	20.0%
White Disabled Female	2	53.3%	16.9%
Hispanic Non-Disabled Male	1	76.0%	15.5%
White Disabled Male	1	62.9%	13.0%
White Non-Disabled Female	1	73.1%	6.6%
White Non-Disabled Male	0	87.9%	4.8%
African-American Disabled Female	3	50.4%	30.3%
African-American Disabled Male	2	52.3%	23.3%
African-American Non-Disabled Female	2	68.9%	19.9%
White Disabled Female	2	53.3%	16.9%
African-American Non-Disabled Male	1	73.1%	13.8%
White Disabled Male	1	62.9%	13.0%
White Non-Disabled Female	1	73.1%	6.6%
White Non-Disabled Male	0	87.9%	4.8%

was calculated for all Chi-Square statistics. The Phi Coefficient is a measure of the degree of association between two binary variables. The measure was calculated by taking the square root of the Chi-Square statistic divided by the total *n*.

The Phi-Coefficient is similar to a correlation coefficient in its interpretation and provides a measure of the strength of the statistical relationship after accounting for sample size. Significance of the Phi-Coefficient is tied to the significance of its Chi-Square statistic; therefore, each of the Phi-Coefficients is significant at $p < .001$ unless otherwise noted. The range of Phi-Coefficients found among employment rate comparisons were $\phi = .00$ to .34. The range of Phi-Coefficients observed among poverty rate comparisons were $\phi = .01$ to .24.

Hypothesis Tests

Hypothesis 1.1. The primary hypothesis of Study 1 was supported by finding a significant interaction between ethnicity and disability status. Based on data from the 2000 U.S. Census, ethnic minorities with disabilities experienced a double disadvantage effect with regards to employment and poverty rates (see Table 2). Hispanics with disabilities had a significantly lower employment rate (54.2%) and a significantly higher poverty rate (23.8%) than Hispanics without disabilities (65.7%, 17.8% respectively), Whites with disabilities (58.4%, 14.8% respectively), and Whites without disabilities (80.3%, 5.7% respectively). Similarly, African-Americans with disabilities had a significantly lower employment rate (51.3%) and a significantly higher poverty rate (27.1%) than African-Americans without disabilities (70.8%, 17.2% respectively), Whites with disabilities (58.4%, 14.8% respectively), and Whites without disabilities (80.3%, 5.7% respectively).

Table 2.
Study 1 Chi-Square Results of Employment and Poverty Rates – Hypothesis 1.1.

	Employment Rate	$\chi 2$ (all significant $p < .001$) (*df*, *n* in Millions) ϕ Phi-Coefficient			
Hypothesis 1.1		**1a**	**1b**	**1c**	**1d**
1a) Hispanic Disabled	54.2%	-			
1b) Hispanic Non Disabled (*df*, *n* in Millions) ϕ Phi-Coefficient	65.7%	34,132 (1, 3M) .10	-		
1c) White Disabled (*df*, *n* in Millions) ϕ Phi-Coefficient	58.4%	4,479 (1, 4M) .03	31,480 (1, 6M) .08	-	
1d) White Non Disabled (*df*, *n* in Millions) ϕ Phi-Coefficient	80.3%	313,951 (1, 17M) .14	261,464 (1, 18M) .12	714,077 (1, 19M) .19	-
		1e	**1f**	**1g**	**1h**
1e) African-American Disabled	51.3%	-			
1f) African-Amer. Non Disabled (*df*, *n* in Millions) ϕ Phi-Coefficient	70.8%	101,612 (1, 3M) .18	-		
1g) White Disabled (*df*, *n* in Millions) ϕ Phi-Coefficient	58.4%	13,618 (1, 4M) .06	86,012 (1, 5M) .13	-	
1h) White Non Disabled (*df*, *n* in Millions) ϕ Phi-Coefficient	80.3%	401,355 (1, 17M) .15	105,490 (1, 18M) .08	714,077 (1, 19M) .19	-
	Poverty Rate	$\chi 2$ (all significant $p < .001$) (*df*, *n* in Millions) ϕ Phi-Coefficient			
		1a	**1b**	**1c**	**1d**
1a) Hispanic Disabled	23.8%	-			
1b) Hispanic Non Disabled (*df*, *n* in Millions) ϕ Phi-Coefficient	17.8%	13,975 (1, 3M) .07	-		
1c) White Disabled (*df*, *n* in Millions) ϕ Phi-Coefficient	14.8%	37,136 (1, 4M) .10	8,800 (1, 6M) .04	-	
1d) White Non Disabled (*df*, *n* in Millions) ϕ Phi-Coefficient	5.7%	403,584 (1, 17M) .16	444,804 (1, 18M) .16	325,329 (1, 19M) .13	-
		1e	**1f**	**1g**	**1h**
1e) African-American Disabled	27.1%	-			
1f) African-Amer. Non Disabled (*df*, *n* in Millions) ϕ Phi-Coefficient	17.2%	37,213 (1, 3M) .11	-		
1g) White Disabled (*df*, *n* in Millions) ϕ Phi-Coefficient	14.8%	69,737 (1, 4M) .13	5,474 (1, 5) .03	-	
1h) White Non Disabled (*df*, *n* in Millions) ϕ Phi-Coefficient	5.7%	571,844 (1, 17M) .19	379,240 (1, 18M) .15	325,329 (1, 19M) .13	-

Hypothesis 1.2. Support was found for Hypothesis 1.2, which predicted a double disadvantage effect for ethnic minority women (see Table 3). Hispanic women had a significantly lower employment rate (53.4%) and a significantly higher poverty rate (21.6%) than Hispanic men (72.0%, 17.1% respectively), White women (70.0%, 8.2% respectively), and White men (83.5%, 6.3% respectively). African-American women had a significantly lower employment rate (63.9%) and a significantly higher poverty rate (22.7%) than African-American men (67.2%, 16.5% respectively), White women (70.0%, 8.2% respectively), and White men (83.5%, 6.3% respectively).

Hypothesis 1.3. Hypothesis 1.3 was also supported in finding that women with disabilities experienced a double disadvantage effect (see Table 4). Women with disabilities had a significantly lower employment rate (51.7%) and significantly higher poverty rate (21.0%) than men with disabilities (61.2%, 16.1% respectively), women without disabilities (70.2%, 9.8% respectively), and men without disabilities (84.7%, 7.3% respectively).

Hypothesis 1.4. Support was found for Hypothesis 1.4, which predicted triple disadvantage effects for ethnic minority women with disabilities (see Tables 5 and 6). A significant three-way interaction was found between ethnicity, disability status, and sex for each of the dependent variables. Hispanic women with disabilities had a significantly lower employment rate (46.2%) and higher poverty rate (26.7%) than Hispanic men with disabilities (61.1%, 21.3% respectively), Hispanic women without disabilities (55.6%, 20.0% respectively), White women with disabilities (53.3%, 16.9% respectively), Hispanic men without disabilities (76.0%, 15.5% respectively), White men with

Table 3.
Study 1 Chi-Square Results of Employment and Poverty Rates – Hypothesis 1.2.

	Employment Rate	$\chi 2$ (all significant $p < .001$) (*df*, *n* in Millions) ϕ Phi-Coefficient			
Hypothesis 1.2		**2a**	**2b**	**2c**	**2d**
2a) Hispanic Female	53.4%	-			
2b) Hispanic Male (*df*, *n* in Millions) ϕ Phi-Coefficient	72.0%	118,572 (1, 3M) .19	-		
2c) White Female (*df*, *n* in Millions) ϕ Phi-Coefficient	70.0%	170,629 (1, 11M) .12	2,652 (1, 11M) .02	-	
2d) White Male (*df*, *n* in Millions) ϕ Phi-Coefficient	83.5%	739,506 (1, 11M) .26	122,813 (1, 11M) .11	483,243 (1, 19 .16	-
		2e	**2f**	**2g**	**2h**
2e) African-American Female	63.9%	-			
2f) African-American Male (*df*, *n* in Millions) ϕ Phi-Coefficient	67.2%	3,733 (1, 3M) .04	-		
2g) White Female (*df*, *n* in Millions) ϕ Phi-Coefficient	70.0%	25,098 (1, 11M) .05	4,199 (1, 11M) .02	-	
2h) White Male (*df*, *n* in Millions) ϕ Phi-Coefficient	83.5%	348,408 (1, 11M) .18	203,731 (1, 11M) .14	483,243 (1, 19M) .16	-
	Poverty Rate	$\chi 2$ (all significant $p < .001$) (*df*, *n* in Millions) ϕ Phi-Coefficient			
		2a	**2b**	**2c**	**2d**
2a) Hispanic Female	21.6%	-			
2b) Hispanic Male (*df*, *n* in Millions) ϕ Phi-Coefficient	17.1%	10,370 (1, 3M) .06	-		
2c) White Female (*df*, *n* in Millions) ϕ Phi-Coefficient	8.2%	266,344 (1, 11M) .15	127,448 (1, 11M) .11	-	
2d) White Male (*df*, *n* in Millions) ϕ Phi-Coefficient	6.3%	405,588 (1, 11M) .19	222,483 (1, 11M) .14	26,202 (1, 19M) .04	-
		2e	**2f**	**2g**	**2h**
2e) African-American Female	22.7%	-			
2f) African-American Male (*df*, *n* in Millions) ϕ Phi-Coefficient	16.5%	17,830 (1, 3M) .08	-		
2g) White Female (*df*, *n* in Millions) ϕ Phi-Coefficient	8.2%	322,961 (1, 11M) .17	96,183 (1, 11M) .09	-	
2h) White Male (*df*, *n* in Millions) ϕ Phi-Coefficient	6.3%	478,552 (1, 11M) .21	174,316 (1, 11M) .13	26,202 (1, 19M) .04	-

Table 4.
Study 1 Chi-Square Results of Employment and Poverty Rates – Hypothesis 1.3.

	Employment Rate	$\chi 2$ (all significant $p < .001$) (*df*, *n* in Millions) ϕ Phi-Coefficient			
Hypothesis 1.3		**3a**	**3b**	**3c**	**3d**
3a) Disabled Female	51.7%	-			
3b) Disabled Male (*df*, *n* in Millions) ϕ Phi-Coefficient	61.2%	47,388 (1, 5M) .10	-		
3c) Non-Disabled Female (*df*, *n* in Millions) ϕ Phi-Coefficient	70.2%	316,954 (1, 14M) .15	80,643 (1, 14M) .08	-	
3d) Non-Disabled Male (*df*, *n* in Millions) ϕ Phi-Coefficient	84.7%	1,301,901 (1, 13M) .32	731,908 (1, 13M) .24	651,427 (1, 22M) .17	-
	Poverty Rate	$\chi 2$ (all significant $p < .001$) (*df*, *n* in Millions) ϕ Phi-Coefficient			
		3a	**3b**	**3c**	**3d**
3a) Disabled Female	21.0%	-			
3b) Disabled Male (*df*, *n* in Millions) ϕ Phi-Coefficient	16.1%	20,517 (1, 5M) .06	-		
3c) Non-Disabled Female (*df*, *n* in Millions) ϕ Phi-Coefficient	9.8%	244,592 (1, 14M) .13	86,068 (1, 14M) .08	-	
3d) Non-Disabled Male (*df*, *n* in Millions) ϕ Phi-Coefficient	7.3%	427,500 (1, 13M) .18	201,100 (1, 13M) .12	45,637 (1, 22M) .05	-

disabilities (62.9%, 13.0% respectively), White women without disabilities (73.1%, 6.6% respectively), and White men without disabilities (87.9%, 4.8% respectively).

The second part of Hypothesis 1.4 was also supported (see Tables 7 and 8). African-American women with disabilities had a significantly lower employment rate (50.4%) and higher poverty rate (30.3%) than African-American men with disabilities (52.3%, 23.3% respectively), African-American women without disabilities (68.9%, 19.9% respectively), White women with disabilities (53.3%, 16.9% respectively), African-American men without disabilities (73.1%, 13.8% respectively), White men with

Table 5.
Study 1 Chi-Square Results of Employment Rates – Hypothesis 1.4.

	Employment Rate	$\chi 2$ (all significant $p < .001$) (*df*, *n* in Millions) ϕ Phi-Coefficient							
Hypothesis 1.4		**4a**	**4b**	**4c**	**4d**	**4e**	**4f**	**4g**	**4h**
4a) Hispanic Disabled Female	46.2%	-							
4b) Hispanic Disabled Male (*df*, *n* in Millions) ϕ Phi-Coefficient	61.1%	17,885 (1, .8M) .15	-						
4c) Hispanic Non-Disabled Female (*df*, *n* in Millions) ϕ Phi-Coefficient	55.6%	10,142 (1, 2) .08	3,896 (1, 2M) .05	-					
4d) White Disabled Female (*df*, *n* in Millions) ϕ Phi-Coefficient	53.3%	6,113 (1, 2M) .06	8,185 (1, 2M) .06	1,406 (1, 3M) .02	-				
4e) Hispanic Non-Disabled Male (*df*, *n* in Millions) ϕ Phi-Coefficient	76.0%	66,639 (1, 2M) .21	34,974 (1, 2M) .15	110,335 (1, 3M) .21	147,202 (1, 3M) .23	-			
4f) White Disabled Male (*df*, *n* in Millions) ϕ Phi-Coefficient	62.9%	35,296 (1, 2M) .13	494 (1, 2M) .02	15,539 (1, 3M) .07	30,004 (1, 3M) .10	54,830 (1, 3M) .14	-		
4g) White Non-Disabled Female (*df*, *n* in Millions) ϕ Phi-Coefficient	73.1%	126,781 (1, 4M) .12	29,846 (1, 9M) .06	155,509 (1, 9M) .13	237,557 (1, 10M) .16	4,387 (1, 9M) .02	70,389 (1, 10M) .08	-	
4h) White Non-Disabled Male (*df*, *n* in Millions) ϕ Phi-Coefficient	87.9%	510,683 (1, 8M) .25	253,738 (1, 8M) .18	793,151 (1, 9M) .30	1,038,137 (1, 9M) .34	125,515 (1, 9M) .12	623,372 (1, 9M) .26	551,774 (1, 16M) .19	-

Table 6.
Study 1 Chi-Square Results of Poverty Rates – Hypothesis 1.4.

	Poverty Rate	$\chi 2$ (all significant $p < .001$) (*df*, *n* in Millions) ϕ Phi-Coefficient							
Hypothesis 1.4		**4a**	**4b**	**4c**	**4d**	**4e**	**4f**	**4g**	**4h**
4a) Hispanic Disabled Female	26.7%	-							
4b) Hispanic Disabled Male (*df*, *n* in Millions) ϕ Phi-Coefficient	21.3%	3,190 (1, .8M) .06	-						
4c) Hispanic Non-Disabled Female (*df*, *n* in Millions) ϕ Phi-Coefficient	20.0%	7,504 (1, 2M) .07	343 (1, 2M) .01	-					
4d) White Disabled Female (*df*, *n* in Millions) ϕ Phi-Coefficient	16.9%	18,825 (1, 2M) .10	4,569 (1, 2M) .05	4,425 (1, 3M) .04	-				
4e) Hispanic Non-Disabled Male (*df*, *n* in Millions) ϕ Phi-Coefficient	15.5%	23,635 (1, 2M) .12	7,520 (1, 2M) .07	8,174 (1, 2M) .06	862 (1, 3M) .02	-			
4f) White Disabled Male (*df*, *n* in Millions) ϕ Phi-Coefficient	13.0%	43,453 (1, 2M) .15	19,058 (1, 2M) .10	25,684 (1, 3M) .09	9,425 (1, 3M) .05	3,732 (1, 3M) .04	-		
4g) White Non-Disabled Female (*df*, *n* in Millions) ϕ Phi-Coefficient	6.6%	206,277 (1, 8M) .16	131,207 (1, 9M) .12	246,773 (1, 9M) .16	178,273 (1, 10M) .14	116,235 (1, 9M) .11	79,675 (1, 10M) .09	-	
4h) White Non-Disabled Male (*df*, *n* in Millions) ϕ Phi-Coefficient	4.8%	306,984 (1, 8M) .20	207,726 (1, 8M) .16	374,252 (1, 9M) .21	288,777 (1, 9M) .18	201,635 (1, 9M) .15	155,240 (1, 9M) .13	22,976 (1, 16M) .04	-

Table 7.
Study 1 Chi-Square Results of Employment Rates – Hypothesis 1.4.

	Employment Rate	$\chi 2$ (all significant $p < .001$, unless noted * $p > .05$) (*df*, *n* in Millions) ϕ Phi-Coefficient							
Hypothesis 1.4		**4i**	**4j**	**4k**	**4l**	**4m**	**4n**	**4o**	**4p**
4i) African-American Disabled Female	50.4%	-							
4j) African-American Disabled Male (*df*, *n* in Millions) ϕ Phi-Coefficient	52.3%	289 (1, .8M) .02	-						
4k) African-American Non-Disabled Female (*df*, *n* in Millions) ϕ Phi-Coefficient	68.9%	49,419 (1, 2M) .17	35,088 (1, 2M) .15	-					
4l) White Disabled Female (*df*, *n* in Millions) ϕ Phi-Coefficient	53.3%	1,207 (1, 2M) .02	136 (1, 2M) .01	68,617 (1, 3M) .16	-				
4m) African-American Non-Disabled Male (*df*, *n* in Millions) ϕ Phi-Coefficient	73.1%	71,097 (1, 1M) .22	53,500 (1, 1M) .20	4,628 (1, 2M) .05	96,812 (1, 2M) .20	-			
4n) White Disabled Male (*df*, *n* in Millions) ϕ Phi-Coefficient	62.9%	23,440 (1, 2M) .10	14,627 (1, 2M) .08	11,267 (1, 3M) .06	30,004 (1, 3M) .10	28,675 (1, 3M) .10	-		
4o) White Non-Disabled Female (*df*, *n* in Millions) ϕ Phi-Coefficient	73.1%	110,276 (1, 9M) .11	77,792 (1, 9M) .10	9,292 (1, 9M) .03	237,557 (1, 10M) .16	1.03* (1, 9M) .00	70,389 (1, 10M) .08	-	
4p) White Non-Disabled Male (*df*, *n* in Millions) ϕ Phi-Coefficient	87.9%	499,578 (1, 8M .25	385,734 (1, 8M) .22	304,317 (1, 9M) .18	1,038,137 (1, 9M) .34	157,508 (1, 9M) .13	623,372 (1, 9M) .26	551,774 (1, 16M) .19	-

Table 8.
Study 1 Chi-Square Results of Poverty Rates – Hypothesis 1.4.

	Poverty Rate	$\chi 2$ (all significant $p < .001$) (*df*, *n* in Millions) ϕ Phi-Coefficient							
Hypothesis 1.4		**4i**	**4j**	**4k**	**4l**	**4m**	**4n**	**4o**	**4p**
4i) African-American Disabled Female	30.3%	-							
4j) African-American Disabled Male (*df*, *n* in Millions) ϕ Phi-Coefficient	23.3%	5,126 (1, .8M) .08	-						
4k) African-American Non-Disabled Female (*df*, *n* in Millions) ϕ Phi-Coefficient	19.9%	20,675 (1, 2M) .11	2,083 (1, 2) .04	-					
4l) White Disabled Female (*df*, *n* in Millions) ϕ Phi-Coefficient	16.9%	39,701 (1, 2M) .14	8,426 (1, 2M) .07	4,062 (1, 3M) .04	-				
4m) African-American Non-Disabled Male (*df*, *n* in Millions) ϕ Phi-Coefficient	13.8%	54,173 (1, 1M) .20	17,598 (1, 1M) .12	13,645 (1, 2M) .08	4,079 (1, 2M) .04	-			
4n) White Disabled Male (*df*, *n* in Millions) ϕ Phi-Coefficient	13.0%	77,333 (1, 2M) .19	25,803 (1, 2M) .11	24,833 (1, 3M) .09	9,425 (1, 3M) .05	366 (1, 3M) .01	-		
4o) White Non-Disabled Female (*df*, *n* in Millions) ϕ Phi-Coefficient	6.6%	335,775 (1, 9M) .20	147,697 (1, 9M) .13	243,544 (1, 9M) .16	178,273 (1, 10M) .14	65,279 (1, 9M) .08	79,675 (1, 10M) .09	-	
4p) White Non-Disabled Male (*df*, *n* in Millions) ϕ Phi-Coefficient	4.8%	477,652 (1, 8M) .24	228,492 (1, 8M) .17	370,240 (1, 9M) .20	288,777 (1, 9M) .18	125,213 (1, 9M) .12	155,240 (1, 9M) .13	22,976 (1, 16M) .04	-

disabilities (62.9%, 13.0% respectively), White women without disabilities (73.1%, 6.6% respectively), and White men without disabilities (87.9%, 4.8% respectively).

Additional Analyses

Additional analyses were performed on these data to test the main effects of the independent variables and to compare sub-groups against their larger population.

Main effects. The main effects of ethnicity, disability status, and sex were tested in relation to the dependent variables, employment and poverty rate. See Table 9 for results by employment rates and Table 10 for results by poverty rates of the main effects. Using a Chi-Square test for independence, significant differences ($p < .001$) were found for all paired combinations of employment rates as well as poverty rates between groups.

Table 9.
Study 1 Employment Rates and Chi-Squares of Main Effects.

	Employment Rate	$\chi 2$ (all are significant $p < .001$) (*df*, *n* in Millions) ϕ Phi-Coefficient						
Main Effects		**1**	**2**	**3**	**4**	**5**	**6**	**7**
1) Hispanic (*df*, *n* in Millions) ϕ Phi-Coefficient	62.8%	-						
2) African American (*df*, *n* in Millions) ϕ Phi-Coefficient	65.4%	4,284 (1, 6M) .03	-					
3) White (*df*, *n* in Millions) ϕ Phi-Coefficient	76.6%	275,565 (1, 22M) .11	176,650 (1, 22M) .09	-				
4) Disabled (*df*, *n* in Millions) ϕ Phi-Coefficient	56.6%	32,172 (1, 8M) .06	61,255 (1, 8M) .09	820,254 (1, 24M) .18	-			
5) Non-Disabled (*df*, *n* in Millions) ϕ Phi-Coefficient	77.2%	307,928 (1, 25M) .11	200,301 (1, 25M) .09	1,568 (1, 41M) .01	905,686 (1, 27M) .18	-		
6) Female (*df*, *n* in Millions) ϕ Phi-Coefficient	66.8%	18,145 (1, 17M) .03	2,287 (1, 17M) .01	388,908 (1, 33M) .11	171,262 (1, 19M) .09	462,665 (1, 36M) .11	-	
7) Male (*df*, *n* in Millions) ϕ Phi-Coefficient	79.9%	419,401 (1, 16M) .16	295,581 (1, 16M) .14	49,178 (1, 32M) .04	1,038,512 (1, 18M) .24	36,968 (1, 35M) .03	593,299 (1, 27M) .15	-

Table 10.
Study 1 Poverty Rates of Main Effects.

	Poverty Rate	χ2 (all are significant $p < .001$) (*df*, *n* in Millions) ϕ Phi-Coefficient						
Main Effects		**1**	**2**	**3**	**4**	**5**	**6**	**7**
1) Hispanic (*df*, *n* in Millions) ϕ Phi-Coefficient	19.3%	-						
2) African American (*df*, *n* in Millions) ϕ Phi-Coefficient	20.0%	453 (1, 6M) .01	-					
3) White (*df*, *n* in Millions) ϕ Phi-Coefficient	7.3%	484,020 (1, 22M) .15	511,207 (1, 22M .15	-				
4) Disabled (*df*, *n* in Millions) ϕ Phi-Coefficient	18.5%	824 (1, 8M) .01	2,688 (1, 8M) .02	588,205 (1, 24M) .16	-			
5) Non-Disabled (*df*, *n* in Millions) ϕ Phi-Coefficient	8.6%	353,945 (1, 25M) .12	378,247 (1, 25M) .12	25,218 (1, 41M) .02	434,408 (1, 27M) .13	-		
6) Female (*df*, *n* in Millions) ϕ Phi-Coefficient	11.9%	123,536 (1, 17M) .09	139,271 (1, 17M) .09	204,699 (1, 33M) .08	139,078 (1, 19M) .09	101,738 (1, 36M) .05	-	
7) Male (*df*, *n* in Millions) ϕ Phi-Coefficient	9.1%	272,994 (1, 16M) .13	294,168 (1, 16M) .13	34,550 (1, 32M) .03	318,687 (1, 18M) .13	2,143 (1, 35M) .01	56,832 (1, 27M) .05	-

Hispanics had a significantly lower employment rate (62.8%) than African-Americans (65.4%) which was significantly lower than that of Whites (76.6%). African-Americans had a poverty rate that was significantly higher (20.0%) than the poverty rate of Hispanics (19.3%), which was higher than that of Whites (7.3%). People with a disability had a significantly lower employment rate (56.6%) and significantly higher poverty rate (18.5%) than those without disabilities (77.2% and 8.6%, respectively). Females had a significantly lower employment rate (66.8%) and significantly higher poverty rate (11.9%) than that of males (79.9% and 9.1%, respectively).

Binomial analysis. The next analysis on this data set compared sub-group employment and poverty rates with their larger populations. For example, these analyses answered the question, "Is there a disproportionate number of employed Hispanics with a

disability (54.2%) given the number of employed people in the total population (73.2%)?" Based on a Binomial Analysis, the employment rate for Hispanics with disabilities should be 73.2% given the proportion of Hispanics with disabilities in the total population (3%) and the proportion of employed people in the population (73.2%).

Subsequently, the answer to the above question was "yes," there are significantly fewer ($p < .001$) employed Hispanics with a disability given their proportion in the population and the number of employed people in the total population. The employment rate of Hispanics with disabilities was 26% lower than expected. Similarly, the poverty rate of Hispanics with disabilities was 126% higher than expected. African-Americans with disabilities had an employment rate that was 30% lower ($p < .001$) and a poverty rate that was 158% higher ($p < .001$) than expected based on their proportion in the total population.

Similar results were found when the comparison group was changed from the total population to either the Hispanic population or the disabled population. Specifically, Hispanics with disabilities had an employment rate that was 14% lower ($p < .001$) and a poverty rate that was 71% higher ($p < .001$) than expected based on their proportion in the total Hispanic population. Lastly, Hispanics with disabilities had an employment rate that was 4% lower ($p < .001$) and a poverty rate that was 71% higher ($p < .001$) than expected based on their proportion in the total disabled population. Overall, the results indicate that each of the groups in one or more protected classes (e.g., Hispanic women, White men with disabilities; see Table 1) had significantly lower employment rates ($p < .001$) and significantly higher poverty rates ($p < .001$) than the total population, with a few

exceptions noted below. Differences from the total population ranged from 3 standard deviations to over 1,000 standard deviations.

The exceptions to the above findings included five groups. Hispanic men without disabilities had an employment rate significantly higher ($p < .001$) than the total population. White women, women without disabilities, and White women without disabilities had poverty rates that were significantly lower ($p < .001$) than the total population. Finally, there was no significant difference in the employment rate of African-American men without disabilities and the employment rate of the total population. Groups that were not in a protected class had employment rates that were significantly higher ($p < .001$) and poverty rates that were significantly lower ($p < .001$) that the total population. These groups included Whites, men, people without disabilities, White men, Whites without disabilities, men without disabilities, and White men without disabilities.

Chapter 5

Study 1: Discussion

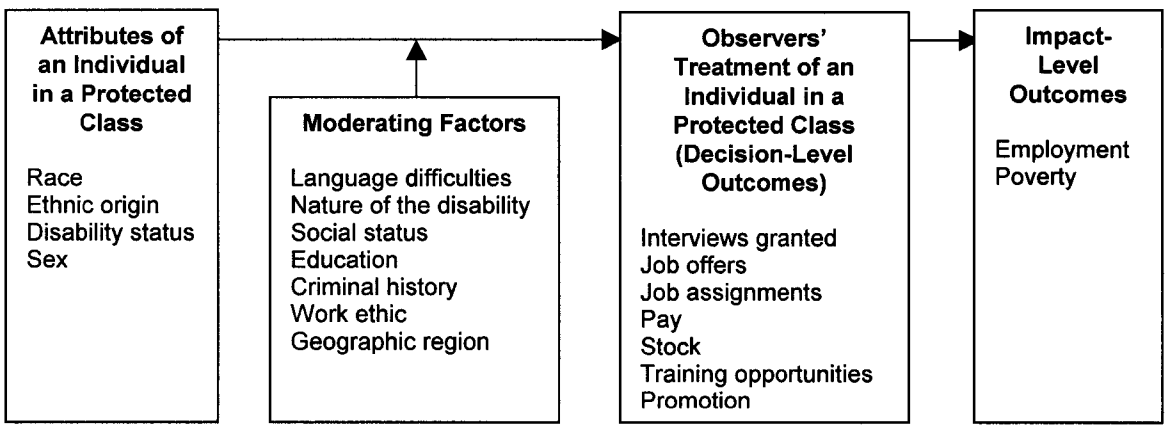
Evidence indicates the existence of double disadvantage effects. Based on the analysis of the 2000 U.S. Census data, Hispanics with disabilities were employed at a rate less than Hispanics without disabilities, Whites with disabilities, and Whites without disabilities. Hispanics with disabilities also had a poverty higher than the same comparison groups. When the factors of ethnicity and disability status were combined, as in the case of Hispanics with disabilities, the resulting impact on employment and poverty rates was an interactive effect. A three-way interaction was found when ethnicity, disability status, and sex variables were combined (e.g., Hispanic women with disabilities) resulting in lower employment rates and higher poverty rates. The findings were generally stronger for African-Americans than for Hispanics. These results parallel the findings of McNeil (2000), which also focused on Hispanics and African-Americans with disabilities and their employment and annual earnings.

The results of Study 1 are consistent with the Impact Model of Double Disadvantage Effects in Organizations in Figure 2. Attributes of the stigmatized individual (i.e., race, ethnic origin, disability status, and sex) predicted impact-level outcomes (i.e., employment rate and pay-based poverty rate). While the large sample size of this study easily permitted these relationships to be statistically significant, adjustments to the Chi-Square statistic based on the sample size also revealed several strong relationships.

Limitations

While the size and scope of the 2000 U.S. Census data served as strengths of this study, it also proved a limitation because of a lack of access to individual-level data and because of the inability to investigate control or moderating variables. A Modified Impact Model of Double Disadvantage Effects (Figure 3) illustrates the effect of moderators and mediators on employment and poverty levels. Language differences, the nature and severity of the disability, social status, education levels, criminal history, work ethic, and geographic regions may help explain which attributes of a double disadvantaged individual contribute to a relationship that goes beyond the simple addition of the main effects. Another limitation of this study is that the results do not necessarily provide a direct link between the differences found and actual discrimination, prejudice, or bias. The Overall Discussion section further addresses these issues.

Figure 3.
Modified Impact Model of Double Disadvantage Effects in Organizations



Linkage to Study 2

As shown in Study 1, double disadvantage effects influence the impact-level outcomes of employment and poverty. This could be explained by mediating decision-level employment outcomes and thus mirror independent research on discrimination based on race or disability (see Figure 3). Given that double disadvantage effects occur among the impact-level outcomes of employment and poverty, several predictions can be made.

Double disadvantage effects are expected in initial candidate hiring and selection decisions as seen in research on racial discrimination (Department of Labor, 1999; James, Khoo, & Harbold, 1996) and research on disability discrimination (Bottrill & Hazer, 1995; Schloss, 1991). Double disadvantage effects are expected among job assignment and placement decisions since they are cited as a source of racial discrimination (Cheatham, 1989) and disability discrimination (Blanck, 1991; Gouvier, Steiner, Jackson, Schlater, & Rain, 1991). Figure 3 includes selection decisions and job assignments as a mediating factor and will investigated in Study 2.

Employment decisions related to salary determination and compensation are expected to also reveal double disadvantage effects given past discrimination research on race (Braddock & McPartland, 1987) and disabilities (Bowe, 1992; Louis Harris & Associates, 1991). Training and career advancement opportunities are also expected to be susceptible to double disadvantage effects based on racial discrimination research (Braddock & McPartland, 1987; Greenhaus & Parasuraman, 1993) and disability discrimination research (U.S. EEOC, 1992). Compensation factors, training, and

advancement opportunities are seen as mediating factors in Figure 3 and will thus be examined in Study 2.

Implications and Future Research

The findings of this study suggest that some lawsuits dealing with discrimination and prejudice may need to be redefined to investigate multiple sources of prejudice. Similarly, past research on prejudice and discrimination may rely too heavily on main effects (e.g., racial discrimination effect) while the interactive effects (e.g., racial and disability discrimination effects) are overlooked. Future research should replicate this study using other data sources while controlling for additional factors and investigating moderators of the relationship such as severity of the disability. The findings of McNeil (2000) suggest that double disadvantage effects among ethnic minorities with disabilities are exacerbated when the disability is severe.

Double and triple disadvantage effects should be investigated in other aspects of life such as education and customer service interactions to better understand the treatment of double and triple protected groups in other roles (e.g., student or customer). Additional work outcomes such as performance ratings and terminations should also be tested for double and triple disadvantage effects since these outcomes have been cited as a source of racial and disability discrimination (Ralston, 1988; U.S. EEOC, 1992; U.S. EEOC, 1994; Varma, Colella, & DeNisi, 1996).

Research on racial discrimination and disability-based discrimination formed the basis for the hypotheses of Study 2. The study thus investigated the combined discrimination effects of ethnicity (with regards to Hispanics) and disability. Study 2 examined these decision-level employment outcomes, while controlling for differences in

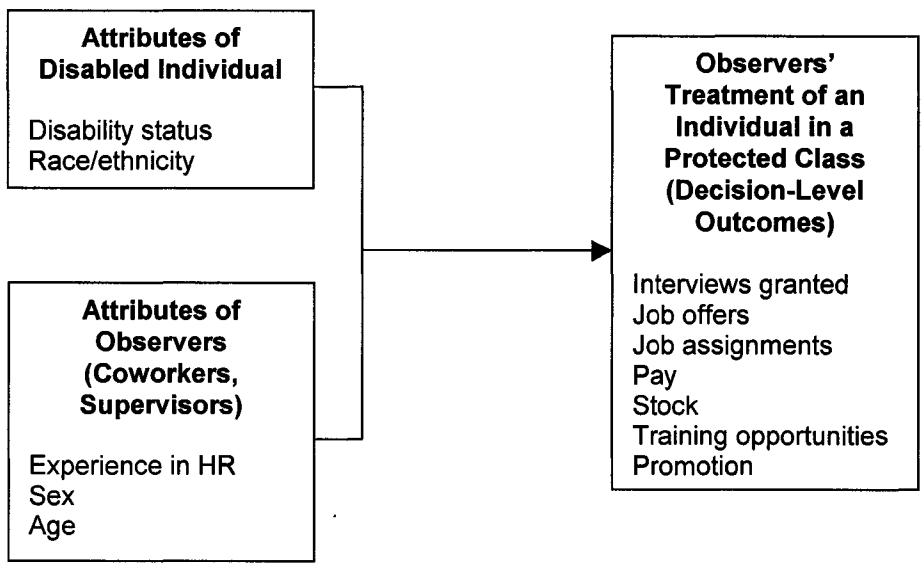
the attributes of a double disadvantaged individual. This dissertation will be among the first empirical research on Hispanics with disabilities related to both impact-level employment variables (i.e., employment and poverty) and decision-level outcomes (i.e., selection, job assignment, compensation, advancement).

Chapter 6

Study 2: Employment Decisions and Double Disadvantage

This study compliments Study 1 by providing a comparison of several specific decision-level employment outcomes made by experienced managers for Hispanics with and without disabilities and non-Hispanics with and without disabilities. Stone and Colella's (1996) Model of Factors Affecting the Treatment of Disabled Individuals in Organizations (see Figure 1) can be used as a guide for this study. However, to limit the focus of the model to the critical variables in this study, an adapted model was developed as shown in Figure 4.

Figure 4.
Adaptation of a Model of Factors Affecting the Treatment of Disabled Individuals in Organizations (Stone & Colella, 1996).



Note. Adapted from "A Model of Factors Affecting the Treatment of Disabled Individuals in Organizations," by D. L. Stone and A. C. Colella, 1996, Academy of Management Review, 21, p.355.

Attributes of Disabled Individuals

Attributes of disabled individuals play a key role in Stone and Colella's (1996) model (see Figure 4). Among these attributes, it is believed that an individual's ethnicity serves as a critical factor in organizational outcomes because of additional biases and prejudices associated with particular ethnic minorities. To isolate the effects of an individual's race and disability status, additional attributes should be controlled or left ambiguous. For instance, sex of a fictitious candidate can be held constant so the effects of any sex bias or "similar-to-me bias" would not be introduced. Similarly, the nature of the disability can be left ambiguous to allow the findings to be more generalizable and to avoid a disability hierarchy bias in which visible and invisible disabilities yield varying observer responses (O'Keeffe, 1994). It is for these reasons that this study utilized a "paper-people" methodology with fictitious candidate resumes.

Using fictitious candidate resumes allows one to simulate an organizational process (e.g., selection) while controlling for attributes of fictitious individuals (e.g., education, name, and appearance). Murphy, Herr, Lockhart, and Maguire (1986), in their analysis of paper-people methodologies, found that in many research areas effect sizes in paper-people studies were comparable to actual behavioral observations. Furthermore, the authors found that in studies on rater/ratee characteristics, similar to this study, there were practically no differences in the effect sizes of the methodologies. Resume research, in particular, has been used in relation to prejudicial outcomes. In a study conducted by the Department of Labor (1999), similar resumes were written for White and ethnic minority job seekers and sent to the same organizations, all of which were unaware of the

study. Hispanic candidates received 25% fewer job interviews and 34% fewer job offers than other candidates.

Attributes of Observers

Stone and Colella (1996) cite several attributes of observers (e.g., coworkers, supervisors) that might impact the treatment of disabled individuals (e.g., demographic characteristics such as sex and age; see Figure 4). The authors found no consistent agreement that observer characteristics affect attitudes toward those with disabilities and thus call for more research in this area. It is expected that more experience with a particular organizational outcome (e.g., selection decisions) will reduce any prejudicial bias in that outcome. Marlow, Schneider, and Nelson (1996) found that more experienced managers generally exhibited less gender bias in hiring decisions.

Related to observer attributes, Hispanics with disabilities may actually experience increased access to employment opportunities compared to those in just one protected class because of an observer's motivation to manage impressions and appear inclusive. Some observers may want to conceal biases against Hispanics with disabilities since doing so may be more easily detected than actions against Hispanics or people with disabilities alone. Stone and Colella (1996) acknowledge the possibility that ethnic minorities with disabilities may find it easier to gain access to organizations utilizing hiring quotas. Furthermore, organizations attempting to increase the number of employees from diverse backgrounds may favor individuals from more than one diverse background to demonstrate a stronger commitment to diversity in hiring. Despite these assertions, the hypotheses of this study are in support of double disadvantage effects since there is more evidence of these effects in the literature.

Observer Treatment of an Individual in a Protected Class/Decision-Level Outcomes

Stone and Colella (1996) proposed that when disabled individuals are thought to be unable to perform a job, observers would be less likely to assign them the job, and recommend them for career enhancing opportunities (see Figure 4). It follows that jobs seen as more difficult for a disabled individual to perform and jobs that are not traditionally held by disabled individuals would be more susceptible to selection biases. For example, a middle management job with frequent customer service interactions, significant leadership and managerial responsibility, and a high degree of autonomy could be seen as more unlikely for a disabled person to hold as versus an entry-level desk job.

Jobs with a great deal of customer service, public contact, management of others, and a high degree of autonomy have been noted to be especially susceptible to biases against ethnic minorities (Braddock & McPartland, 1987) and disabled candidates or incumbents (Bolton & Roessler, 1985; Bottrill & Hazer, 1995). In general, double disadvantage effects are expected among job assignment and placement decisions since they are often cited as a source of racial discrimination (Cheatham, 1989) and disability-based discrimination (Blanck, 1991; Gouvier, Steiner, Jackson, Schlater, & Rain, 1991).

Another organizational outcome thought to be susceptible to double disadvantage effects is an applicant's suitability for a selection interview based on their resume content. Gouvier, Systma-Jordan, and Mayville (2003) found evidence of disability discrimination based on resume screening and applicant suitability ratings. In addition, candidate hiring and selection decisions have revealed racial discrimination (Department of Labor, 1999; James, Khoo, & Harbold, 1996) and disability-based discrimination (Bottrill & Hazer,

1995; Schloss, 1991). Selection interview offers and job offers were used in this study as measures of applicant suitability.

Additional organizational decisions thought to reveal double disadvantage effects include salary determination and compensation decisions (Bowe, 1992; Braddock & McPartland, 1987; Louis Harris & Associates, 1991) and training and career advancement opportunities (Braddock & McPartland, 1987; Greenhaus & Parasuraman, 1993; U.S. EEOC, 1992). Study 2 investigated these employment decisions while controlling for attributes of a double disadvantaged individual.

This study uses a paper-people methodology by asking experienced managers to make several specific employment recommendations based on a fictitious job description and four fictitious resumes. One of the resumes was manipulated to represent a candidate that was Hispanic or non-Hispanic and disabled or non-disabled depending on the participant's conditional group.

Hypotheses

Hypothesis 2.1. The fictitious Hispanic candidate with a disability will receive significantly fewer interview recommendations than the Hispanic without a disability or the non-Hispanics with or without disabilities.

Hypothesis 2.2. The fictitious Hispanic candidate with a disability will receive significantly fewer offers for the Sales Manager job and significantly more offers for the Assistant Sales Manager job than the Hispanic without a disability or the non-Hispanics with or without disabilities.

Hypothesis 2.3. The fictitious Hispanic candidate with a disability will receive significantly lower salary and stock option recommendations than the Hispanic without a disability or the non-Hispanics with or without disabilities.

Hypothesis 2.4. The fictitious Hispanic candidate with a disability will receive significantly fewer recommendations to enter a fast track development program than the Hispanic without a disability or the non-Hispanics with or without disabilities.

Chapter 7

Study 2: Method

Participants

One hundred fifty-seven subjects participated in this study. A power analysis (95% confidence interval) resulted in a recommended sample of at least 150 subjects to sufficiently investigate an interaction effect (Cohen, 1992). Participants represented management employees who often participate in the selection of new employees in their organizations. Subjects came from seven large private organizations (10,000 to 400,000 employees each) headquartered in the Midwestern, Southeastern, and Northeastern United States. The organizations spanned six different industries including retail, transportation, consumer products, restaurant, financial, and insurance. Within each organization, participants worked in a wide variety of organizational functions (e.g., Finance, Marketing, Human Resources, Sales).

Study participants were recruited by "research recruiters" who worked in each of the participating organizations. The 23 total research recruiters (3 to 4 per organization) were primarily Human Resources employees (HR generalists, Industrial/Organizational Psychologists, and HR Directors). To avoid confidentiality or coercion issues, research recruiters did not recruit their own direct reports. Instructions were given to all recruiters (see Appendix A) on identifying and inviting participants, as well as collecting and returning responses.

Recruiters were asked to identify 10 to 20 individuals meeting the participant criteria within the function that the recruiter supported (e.g., a Human Resources Director for Marketing would choose a Marketing manager). There were three criteria for

participation: (1) participants were required to be 18 years of age or older; (2) they must have been currently employed or employed during the last year inside the United States under a salaried, management, exempt classification; and (3) subjects must have had a minimum of one year of experience making candidate selection and hiring decisions (this was also asked in the research survey).

Research recruiters invited participants via email using a pre-written research invitation and a survey attachment (see Appendix A) or in person with a printed invitation and a paper-pencil survey. Potential participants were told that the research related to employment decisions based on fictitious resumes (see Appendix A). Participants were asked to remove all potentially identifying information from their response forms to protect their anonymity and to deliver their response forms back to their research recruiter via a secure and anonymous box near their workspace. The research recruiters were told that they should not know who submitted the data, nor should they attempt to identify individuals based on the information submitted. Only the research recruiter had access to the data inside the box before it was forwarded back to the research investigator. A response rate was not calculated in order to fully protect the confidentiality and anonymity of the respondents. However, based on the final count of participants and assuming each research recruiter invited 10 to 20 managers, the response rate would be between 35% and 69%.

Independent Variables

Participants read a brief scenario and received a fictitious job description for the position of Sales Manager (in a fictitious company) followed by four fictitious candidate resumes for that position. The job description was constructed from actual Sales

Manager job descriptions used in two organizations. The Sales Manager job was selected because it is a middle management job with frequent customer service interactions, significant leadership and managerial responsibility, and a high degree of autonomy. These job characteristics have been noted as especially susceptible to biases against ethnic minorities (Braddock & McPartland, 1987) and people with disabilities (Bolton & Roessler, 1985; Bottrill & Hazer, 1995). Because ethnic minorities and people with disabilities may not fit the "ideal" candidate image of a Sales Manager, it is expected that bias and discrimination would be seen more often than in entry-level hourly position for example.

All participants received a packet with three identical resumes that represented a neutral condition. A fourth resume displayed the same content with regards to experience, education, etc., but the candidate's implied ethnicity and disability status varied. Research recruiters randomly assigned this resume to one of four ethnicity and disability status conditions: (1) Non-Hispanic Non-disabled; (2) Non-Hispanic Disabled; (3) Hispanic Non-disabled; (4) Hispanic Disabled. Research recruiters cycled through each of the four packets (conditions) so they were administered equally. The final participant count for packet 1 (Non-Hispanic Non-disabled condition) was 39, for packet 2 (Non-Hispanic Disabled condition) was 34, for packet 3 (Hispanic Non-disabled condition) was 44, and for packet 4 (Hispanic Disabled condition) was 40 (see Table 11). The conditional resume was always presented third among the four resumes. Resume order was not controlled since any order effects would equally impact all conditions. See Table 11 for the order of each condition.

The content of the four resumes came from numerous actual candidate resumes submitted for Sales Manager positions in two organizations. Educational backgrounds, levels of work experience, and job skills possessed were relatively equivalent across the four resumes. Each of these qualifications was consistent with a "typical" Sales Manager job applicant and equally met the minimum qualifications of the job. Since education, work experience, and job skills are often weighted heavily when making selection decisions, these factors were designed to be at equal levels. This should allow for more differentiation of candidates based on other factors such as biases and discrimination.

Table 11.
Study 2 Resume Condition Order.

Packet	Resumes	Condition	Participants
1	A	Neutral	$n = 39$
	B	Neutral	
	C	Non-Hispanic Non-Disabled	
	D	Neutral	
2	A	Neutral	$n = 34$
	B	Neutral	
	C	Non-Hispanic Disabled	
	D	Neutral	
3	A	Neutral	$n = 44$
	B	Neutral	
	C	Hispanic Non-Disabled	
	D	Neutral	
4	A	Neutral	$n = 40$
	B	Neutral	
	C	Hispanic Disabled	
	D	Neutral	
			Total $n = 157$

The names of the schools, companies, and most cities referenced in the resumes were completely fictitious to avoid any personal bias among the subjects. The neutral condition resumes did not indicate the candidate's ethnicity or disability status. The

experimental condition resume indicated ethnicity through the candidate's name and membership in professional organizations (i.e., Hispanic = Carlos Martinez, Hispanic Business Leaders of America; Non-Hispanic = Charles Martin, Business Leaders of America). Disability status was indicated through the candidate's awards and membership in professional organizations (i.e., Disabled = Disabled Community Leader of the Year Award, Disabled Advocate Association; Non-disabled = Community Leader of the Year Award, Advocate Association). See Appendix C for neutral condition resumes and Appendix D for experimental condition resumes.

Employment Decision Measures

In an Employment Recommendations Questionnaire (Appendix E), participants were asked to make five separate employment recommendations based on specific scenarios and the four resumes received. Subjects first recommended two of the four candidates for a formal selection interview. This decision reflected a candidate's initial access to a position and consideration for employment in an organization. In the second scenario, participants were asked to assume that all candidates were interviewed and received comparable qualifying scores. Participants were then to recommend two candidates for the position of Sales Manager and, of the two remaining individuals, one candidate for the position of Assistant Sales Manager. This decision captures the candidate's transfer to employed status and also reflects a job-level placement decision.

Scenario three included an assumption that all four candidates were offered the position of Sales Manager. Participants recommended the starting salaries for each of the four candidates using an annual salary range of $40,000 to $60,000. This decision provides a monetary worth of the new employee within a limited range. The fourth

decision dealt with allocating stock options to the candidates. The participants distributed a total of three thousand stock options as they deemed appropriate. The stock options were to purchase future shares of the company stock at current prices (e.g., if 1,000 options granted at a price of $30/share were sold at $35/share, they would be worth $5,000). The stock allocation decision provides insight on the worth of the new employee given limited resources and a group distribution framework.

The fifth scenario and final employment decision was to recommend one of the four candidates for a fast track development program. The stated goal of the program was to provide high-potential Sales Managers with training, developmental assessments, and exposure to Executive-level leaders. The program touted the expectation of allowing the Sales Manager to earn a promotion to District Sales Manager within two years of the participation in the program. This final decision captures the subject's assessment of new employee with the most potential, the precursor to a promotion decision, and the allocation of valuable training and developmental opportunities.

Demographic and Experience Items

In addition to employment recommendations, demographic and experience data were collected. Demographic items included the participants' ethnicity, sex, disabilities held, age, current work function (e.g., Finance, Marketing, Human Resources, Sales, etc.), and current organization's industry (e.g., Retail, Financial, Transportation, Insurance, etc.). Subjects also answered the question, "How many years of experience do you have making selection and hiring decisions?"

As a manipulation check of the experimental conditions, participants were asked, "Did you think any of the four candidates were an ethnic minority?" and "Did you think

any of the four candidates were disabled?" followed by space for the candidate(s) name and their ethnicity/type of disability. To conceal the purpose of the study, the following two questions were also asked with the above manipulation check items, "Did you think any of the four candidates were females?" and "Did you think any of the four candidates were 40 years of age or older?" Again, space was provided for the subject to indicate the candidate(s) name. See Appendix E for the Employment Recommendations Questionnaire.

Procedure

Participants received a research invitation either by hand or by email message with a document containing participant instructions, the description of the Sales Manager job, the four fictitious resumes, and the Employment Recommendations Questionnaire containing the five employment recommendations and 11 demographic, experience, and manipulation check items. See Appendix F for a complete example of the participant packet. Participants received the following instructions describing the situation, the task, and the steps for submitting study responses:

Thank you for your participation in this research on employment recommendations made based on fictitious resumes. The purpose of this research is to understand how specific resume content impacts final employment decisions. Place yourself in the following situation description as you complete the study.

The Situation

You are a manager with Focus Technologies Inc., a leading manufacturer of camera equipment for photography professionals. The company is attempting to hire new talent into the Sales Manager positions. These positions play a critical role in driving the company's profitability.

You have been asked to serve on a four-person selection committee tasked with reviewing resumes received from the company's recruiting department. You will make recommendations on:

- *Who should be interviewed*
- *Who should be hired*
- *What their starting salaries should be*
- *What their stock option awards should be*
- *Who belongs in a fast track development program*

Assume each of the four resumes in this packet has gone through an initial screen by an internal recruiter to insure each candidate meets the minimum qualifications of the job. Assume there are no other selection screens beyond the interview.

Participation Steps

1. *Review the Informed Consent Form for an understanding of the risks of this research and your rights as a participant on page 2.*
2. *Review the job description for the Sales Manager position on page 4.*
3. *Review the four Sales Manager candidate resumes on pages 5 – 8.*
4. *Complete the Employment Recommendations Questionnaire on pages 9 – 11.*
5. *Submit your Employment Recommendations Questionnaire to your Research Recruiter as instructed in your research invitation.*

Chapter 8

Study 2: Results

Participants

The 157 study participants included 85% Whites, 7% Asians or Pacific Islanders, 4% African-Americans, 3% Hispanics or Latinos, and 1% American Indians or Native Americans. Females made up 48% of the sample, and 1% of participants reported having a disability. The age of respondents ranged from 24 to 59 years, with an average age of 36 years old. Participants had an average of seven years experience making selection and hiring decisions with a range of 1 to 30 years.

The following organizational work functions/departments were represented by respondents: Human Resources (38%), other departments (12%, e.g., Business Development, Scheduling, Claims, Research & Development), Operations (10%), Information Technology (8%), Finance (8%), Communications (6%), Marketing (6%), Sales (6%), Administration (2%), Government Relations (2%), and Legal (2%). Study participants worked in the following six industries: Retail (26%), Transportation (19%), Consumer Products (17%), Restaurant (15%), Financial (14%), and Insurance (9%).

Participants answered two questions to confirm whether they were aware that one of the candidates was Hispanic and/or disabled. All but two respondents confirmed the manipulation checks by correctly identifying Carlos Martinez as Hispanic and acknowledging the candidate with an implied disability. When asked what type of disability the candidate held, 10% of respondents answered "wheelchair" or "physical." The other 90% answered "unsure" or "unknown" or left the question blank. Two participants' responses were removed from the study because they did not indicate the

existence of a candidate of Hispanic descent despite receiving a resume with the "Hispanic condition". Therefore, the total number of valid subjects was reduced from 159 to 157.

Hypothesis Tests

See Table 12 for all employment recommendation results. The hypotheses in Study 2 were generally not supported. The resume from a Hispanic disabled candidate often received more positive employment recommendations than others.

Table 12.
Study 2 Employment Recommendations by Resume Condition.

	Non-Hispanic Non-Disabled	Non-Hispanic Disabled	Hispanic Non-Disabled	Hispanic Disabled
Hypothesis 2.1				
Interview Recommendations	23.1%	38.2%	45.5%	47.5%
Hypothesis 2.2				
Sales Manager Position Recommendations	35.9%	29.4%	47.7%	45.0%
Assistant Sales Manager Position Recommendations	28.2%	50.0%	34.1%	42.5%
Hypothesis 2.3				
Starting Salary Recommendations	$50,618.42	$49,500.00	$49,406.98	$50,737.50
Stock Option Recommendations	730.26	721.21	795.12	765.63
Hypothesis 2.4				
Fast Track Development Program Recommendation	25.6%	14.7%	29.5%	40.0%

Hypothesis 2.1. Hypothesis 2.1was not supported. Resumes from Hispanic candidates with disabilities received more recommendations for an interview (47.5%) than Hispanics without disabilities (45.5%), non-Hispanics with disabilities (38.2%), and non-Hispanics without disabilities (23.1%). These figures show a significant difference

between interview recommendations for Hispanic candidates with a disability (47.5%) and non-Hispanics without disability (23.1%) based on a Chi-Square test for independence ($\chi^2 = 5.15, 1, p < .05$).

Using Logistic Regression, the main effects of ethnicity (Hispanic and non-Hispanic) and disability status (disabled and non-disabled) as well as the interaction variable of ethnicity by disability status were tested for their ability to predict interview recommendations (see Table 13). The main effect of ethnicity was a significant predictor ($\beta = -.70, p < .05$) in that Hispanics received more interview recommendations (46.4%) than non-Hispanics (30.1%). The main effect of disability and the ethnicity by disability interaction variable were not significant predictors of interview recommendations. The overall model accounted for 4% of the variance in the interview recommendations term.

Table 13.
Logistic Regression of Interview Recommendations

Variable	Step 1 β	Step 1 Standard Error	Step 1 Significance *p*	Step 2 β	Step 2 Standard Error	Step 2 Significance *P*
Ethnicity	-.70*	.34	.04	-.38	.47	.42
Disability	-.35	.33	.29	-.08	.44	.85
Ethnicity x Disability				-.64	.68	.34
Constant	.04	.28	.86	-.10	.32	.75
R^2		.04			.04	
χ2		5.53	.06		6.43	.09

* $p < .05$

Hypothesis 2.2. The second hypothesis of the study was also not supported. Resumes from Hispanic candidates with a disability received 45% of the recommendations for the Sales Manager position, compared to 47.7% for Hispanics

without disability, 29.4% non-Hispanics with a disability, and 35.9% for non-Hispanics without disabilities. No significant differences were found among these results. Recommendations were also collected for candidate placement (among two remaining candidates) into a lesser position of Assistant Sales Manager. Resumes from Hispanics with a disability were selected 42.5% of the time, Hispanics without disabilities 34.1%, non-Hispanics with a disability 50.0%, and non-Hispanics without disabilities 28.2%. No significant differences were found among these recommendations.

A job-type variable was created for further analysis on this hypothesis. The job-type variable was made up of the three discreet outcomes based on the conditional resume: recommended for the Sales Manager job, recommended for the Assistant Sales Manager job, and not recommended for either job. Table 14 presents results of each condition by the three job-type outcomes.

Table 14.
Job-Type Recommendations by Percentage of Condition

	Sales Manager	Assistant Sales Manager	Neither Job
Non-Hispanic Non-Disabled	34.2%	26.3%	39.5%
Non-Hispanic Disabled	27.3%	48.5%	24.2%
Hispanic Non-Disabled	46.5%	32.6%	20.9%
Hispanic Disabled	42.1%	39.5%	18.4%

Cumulative Logistic Regression was used to test the job-type variable (see Table 15). The main effect of ethnicity was a significant predictor of the job type variable ($\beta = -.75, p < .05$). Hispanics were more likely to be recommended for the Sales Manager job than the Assistant Sales Manager job or no job at all. The main effect of disability status and the interaction term of ethnicity by disability status were not significant

predictors of the job-type variable. The overall model accounted for 28% of the variance in job-type recommendations.

Table 15.
Cumulative Logistic Regression of Job-Type

Variable	Step 1 β	Step 1 Standard Error	Step 1 Significance *p*	Step 2 β	Step 2 Standard Error	Step 2 Significance *p*
Ethnicity	-.62*	.30	.04	-.75	.42	.07
Disability	-.05	.30	.86	-.20	.44	.65
Ethnicity x Disability				.27	.60	.65
R^2		.27			.28	
$\chi 2$		4.32	.36		4.12	.23

* $p < .05$

Hypothesis 2.3. No support was found for Hypothesis 2.3. Resumes representing Hispanic candidates with a disability did not receive significantly lower average salary recommendations ($50,737.50) or average stock option grant recommendations (765.63) than Hispanics without disability ($49,406.98 and 795.12, respectively), non-Hispanics with a disability ($49,500.00 and 721.21, respectively), or non-Hispanics without disabilities ($50,618.42 and 730.26, respectively). Using Analysis of Variance (ANOVA) the main effects of ethnicity (Hispanic and non-Hispanic) and disability status (disabled and non-disabled) as well as the interaction term of ethnicity by disability status were tested for differences in salary recommendations (see Table 16) and stock options (see Table 17). No significant differences were found between the groups for these dependent variables.

Table 16.
ANOVA for Salary Recommendations by Ethnicity and Disability Status

Variable	*MS* *(millions)*	*F* *(1, 154)*	Significance *p*
Ethnicity	53.0	1.86	.18
Disability	46.9	1.65	.20
Ethnicity x Disability	57.7	2.02	.16

Table 17.
ANOVA for Stock Option Recommendations by Ethnicity & Disability Status

Variable	*MS* *(thousands)*	*F* *(1, 153)*	Significance *p*
Ethnicity	28.7	.49	.49
Disability	.47	.01	.93
Ethnicity x Disability	3.98	.07	.80

A Multivariate Analysis of Variance (MANOVA) was used to further test this hypothesis since salary recommendations and stock option recommendations were similar outcome measures and significantly correlated ($r = .59, p < .01$). The overall MANOVA main effects of ethnicity and disability status were not significant. It should be noted however, that the ethnicity overall MANOVA displayed a trend toward significance ($F = 2.68, p = .07$) indicating that Hispanics received larger salaries *and* stock grants than non-Hispanics. The MANOVA interaction term of ethnicity by disability status was not significant (see Table 18).

Hypothesis 2.4. Hypothesis 2.4 was not supported. Resumes representing Hispanic candidates with a disability received 40.0% of the recommendations for a fast track development program compared to 29.5% Hispanics without disabilities, 25.6% of non-Hispanics without disabilities, and 14.7% of non-Hispanics with a disability. No

Table 18.
MANOVA for Salary and Stock Option Recommendations

Variable	Wilks' Lambda	*MS* *(thousands)*	*F* *(2, 149)*	Significance *p*
Ethnicity Overall MANOVA	.97		2.68	.07
Salary		53,273.49	1.86	.18
Stock		28.69	.49	.49
Disability Overall MANOVA	.98		1.38	.26
Salary		47,112.32	1.64	.20
Stock		.47	.01	.93
Ethnicity x Disability Overall MANOVA	.97		1.95	.15
Salary		57,895.49	2.02	.16
Stock		3.98	.07	.80

significant differences were found among these recommendations. A Logistic Regression was conducted on the main effects of ethnicity (Hispanic and non-Hispanic) and disability status (disabled and non-disabled) as well as the interaction term of ethnicity by disability status to test for their ability to predict recommendations for the fast track development program (see Table 19). The main effect for ethnicity was significant ($\beta = -.71, p < .05$) in that Hispanics received more recommendations (41.8%) for the development program than non-Hispanics (25.9%). The predictors of disability and the interaction term of ethnicity and disability were not significant although it should be noted that the interaction term results indicate a trend toward significance ($\beta = -1.16, p = 13$). The overall regression equation accounted for 4% of the variance in development program recommendations.

Table 19.
Logistic Regression of High-Potential Development Program Recommendations

Variable	Step 1 β	Step 1 Standard Error	Step 1 Significance *p*	Step 2 β	Step 2 Standard Error	Step 2 Significance *p*
Ethnicity	-.71*	.37	.05	-1.35*	.58	.02
Disability	-.03	.36	.94	-.46	.46	.32
Ethnicity x Disability				1.16	.76	.13
Constant	-.63*	.30	.04	-.40	.32	.21
R^2		.02			.04	
χ2		3.85	.15		6.21	.10

* $p < .05$

Additional Analyses

Covariates. Additional analyses investigated four covariates that could potentially explain the results of this study. Since 38% of participants worked in Human Resources departments, this factor was used to test for differences in recommendations. Similarly, the number of years a respondent worked in selection and hiring was used as a covariate. The average was 7 years of experience with a range of 1 to 30 years. The third covariate tested was the age of the subject (average age of 36, range of 24 to 59). The sex of the subject was also tested as a covariate since 48% of the respondents were female.

Results of the tests of covariates can be found in Appendix G (Tables 20 to 24). None of the covariates were significant predictors of the dependent variables except years of experience associated with salary recommendations ($F = 4.59, 152, p < .05$). Participants with more years of experience in hiring tended to recommend higher salaries. There was only one change in the results of the original predictive models compared to the models with covariates. The significant main effect for ethnicity in predicting

interview recommendations (see Table 13) was no longer significant when covariates were entered in the Logistic Regression.

Early recommendations predicting later recommendations. Additional analyses were conducted to understand the impact the first selection-based recommendations (interview, job-type) had on the later compensation-based recommendations (salary, stock option offers) and the development program recommendations. Multiple Regression was used to examine interview recommendations and job recommendations in predicting salary, stock option, and development program recommendations. Interview recommendations were a significant predictor of both salary ($\beta = -.39$, $p < .01$) and stock option recommendations ($\beta = -.36$, $p < .01$; see Table 25 and 26 in Appendix G). Job-type was a significant predictor of development program recommendations ($\beta = 1.39$, $p < .01$; see Table 27 in Appendix G). Despite these results, when early recommendation factors were combined with the salary, stock, and development program analyses they did not have an impact on the outcome of the ethnicity, disability status, and ethnicity by disability interaction factors.

Average salary offers predicting conditional resume offer. Additional analyses were conducted to understand the impact of salary recommendations for neutral condition resumes on the salary recommendation for the conditional resume. Using Multiple Regression, the average salary offered to the three candidates that were consistent across subjects was used to predict the salary offered to the conditional candidate (see Table 28 in Appendix G). The average salary based on the neutral condition resumes was a significant predictor of the salary offered to the conditional resume candidate ($\beta = .23$, $p < .01$). When average salary was included in the original hypothesis test, there was no

change seen in outcome of the ethnicity, disability status, and ethnicity by disability interaction factors.

Chapter 9

Study 2: Discussion

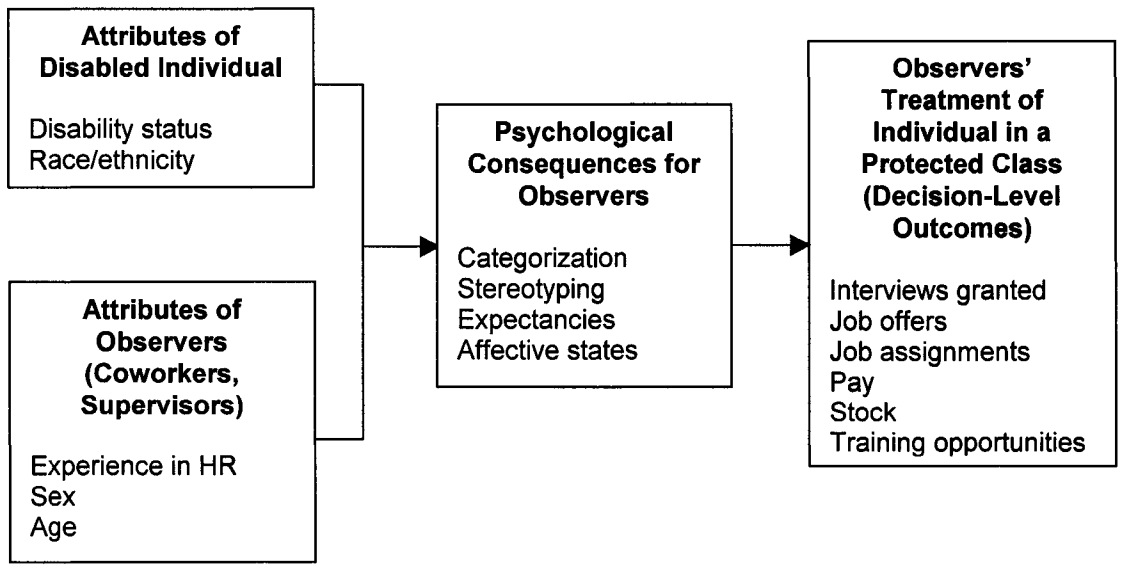
The results of Study 2 yielded no evidence of double disadvantage effects. In fact, Hispanics had a significant advantage over non-Hispanics in receiving initial job interviews, receiving offers for the higher level job, and invitations to participate in a high-potential development program. Disability status and the interaction between disability status and ethnicity were not significant predictors of the employment decisions investigated. In terms of percentages, participants often recommended more positive outcomes for the Hispanic disabled candidate than for other candidates. The covariate tests in this study did not significantly alter the findings related to the hypotheses.

Psychological Consequences of Observers

Referring back to the adapted model for the treatment of disabled individuals in organizations (see Figure 4), several factors may have contributed to the results. In Stone and Colella's (1996) model (see Figure 1) they identify four psychological consequences for observers: categorization, stereotyping, expectancies, and affective states. These mediating factors were not included in this study because they would be highly susceptible to social desirability effects. For example, asking participants about the stereotypes they hold for ethnic minorities with disabilities would reveal the focus of the study. These psychological consequences were incorporated in the adaptation of Stone and Colella's (1996) model (Figure 5). Psychological consequences for observers are included as a mediator in the relationship between both attributes of observers and ethnic minorities with disabilities and decision-level outcomes. Despite the efforts to avoid

factors susceptible to social desirability effects, these effects may have still played a role in the results of this study.

Figure 5.
Adaptation of a Model of Factors Affecting the Treatment of Disabled Individuals in Organizations with Mediators (Stone & Colella, 1996).



Note. Adapted from "A Model of Factors Affecting the Treatment of Disabled Individuals in Organizations," by D. L. Stone and A. C. Colella, 1996, Academy of Management Review, 21, p.355.

The motivation to respond to the "charged" research situation in a socially desirable way may have been high. Consistent with modern racism, participants might not have wanted to respond honestly to the study for fear of revealing biases and being seen as "prejudiced." This social desirability effect may have been heightened since these employment decisions permit initial access to an organization, which are often easily scrutinized by federal agencies protecting individual employment rights. The lack of information on the candidates possibly led to fewer opportunities for bias to factor into the decisions. Perhaps additional information about a candidate (e.g., appearance,

language usage, test scores) would allow for greater justification or concealment of bias. This type of bias is supported by modern racism theories because discimination can be hidden among selection decisions that are justified by several deciding factors (e.g., deciding to not hire a Hispanic with a disability because of a lack of "presence" or a degree from a "mediocre" school).

Similarly, some form of reverse discrimination could have played a part in the recommendations for the non-Hispanic, non-disabled candidate compared to others. Respondents may have placed a high value on diversity and the need for representation from protected classes. This attitude may exist more among individuals working in Human Resources or among those with more experience making selection and hiring decisions. However, covariate tests revealed that these factors did not significantly account for differences among recommendations.

Additional analyses were conducted to determine whether early recommendations impacted later recommendations. While interview recommendations were related to salary and stock recommendations, and job recommendations were related to the development program recommendations, these factors did not impact the primary hypothesized outcomes. In addition, average salaries for the neutral condition resumes were found to predict the salary offer of the conditional resume yet did not impact the hypothesis outcomes.

Limitations

The methodology used in this study may have contributed to the lack of support for the hypotheses. Sampling biases may have existed in that research recruiters, many of whom worked in Human Resources, may have selected "less biased" participants in a

effort to make their organizations look good. Similarly, participants may have feared that the research recruiter from Human Resources would somehow see their responses. The findings of relevant discrimination research, select paper-people and resume based methodologies, and the framework of Stone and Colella's (1996) model influenced the design of Study 2. However, beyond this research no existing studies used this particular procedural method.

The artificial nature of the study may have contributed to the lack of support for the hypotheses. Though managers often make interview recommendations based solely on resumes, additional employment decisions such as job offers, starting salaries, stock option grants, and fast track program placements would not typically be made with such limited knowledge. Scenarios and assumptions described in the study provided participants with additional situational context; however, this may not have been enough to simulate a realistic selection process. Additional information could have provided more realism to the situation such as interview notes, selection test results, and information on the candidate's desired salary. Participants' awareness of being in a study may also have led to more socially desirable responses. The Department of Labor (1999) conducted a study in which fictitious resumes for White and Hispanic job seekers were sent to organizations that were unaware of the study. Hispanic candidates received 25% fewer job interviews and 34% fewer job offers than other candidate.

In employment decisions, perceived consequences and risks for making the "wrong" selection decision, such as decreased morale, increased turnover, or reduced sales and profits often exist. These consequences and risks were not included in this study since the decisions were fictitious. In reality, the pressure to pick the best person

for the job may counteract any motivation to give preference to a member of a protected class. Therefore, without this counter motivation, social desirability effects could result.

The position of Sales Manager was selected because subjects might not see it as a job normally held by an ethnic minority or someone with a disability and thus be more likely to reveal prejudices. Furthermore, education and experience levels of all resumes were set to meet the minimum qualifications of the job and allow for more differentiation between candidates based purely on ethnicity and disability status. However, a highly educated and well-experienced ethnic minority candidate with a disability might have been perceived by participants as a "rare find" and consequently more attractive for the job. This possible result could be tested in future studies by offering a broader range of job types and job levels. The strength of double disadvantage effects could then be tested across several job types such as production, customer service, technical, managerial, and leadership and across several job levels such as entry-level hourly, supervisory, specialist, and executive-level.

Future Research

Since this paper-people methodology offered questionable realism and situational context, future research in this area should test these hypotheses using actual candidate interview recommendations, selection decisions, and starting salaries offered. Stone and Collella (1996) suggest that unobtrusive studies be used to examine reactions to people with disabilities. This research could be conducted using a "known group" in which discrimination and bias claims have been made or where attitudes are known to vary in terms of diversity, prejudice, and affirmative action. Future research might also investigate the recommendations made by managers when they subconsciously recognize

a candidate's ethnic group or disability status. In other words, biases and prejudices may still exist in employment decisions even when the manager does not acknowledge the existence of ethnic minorities or people with a disability in the candidate pool in a manipulation check.

In addition, mediators of double disadvantage effects such as the psychological consequences for observers shown in Figure 5 should be tested to fully understand their effect. Additional decision-level outcomes (e.g., performance ratings, pay increased, turnover) beyond the initial organizational access factors used in this study should be investigated. Lastly, a broader range of job types and job levels should be examined in future research to understand their impact on double disadvantage effects.

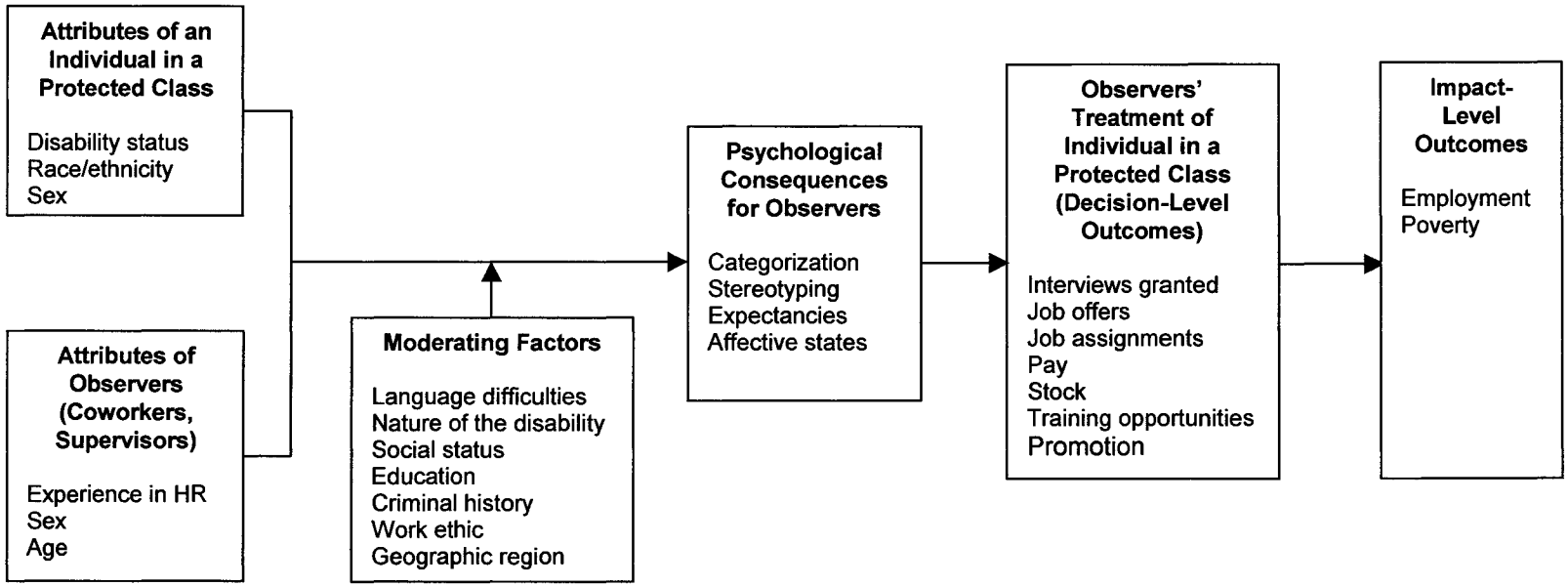
Chapter 10

Overall Discussion

The results of Study 1 revealed evidence of double disadvantage effects in employment and poverty rates among Hispanics with disabilities. However, Study 2 did not reveal evidence of double disadvantage effects with regards to decision-level employment outcomes. Based on Stone and Colella's (1996) model (Figure 1) and the Impact Model of Double Disadvantage Effects in Organizations (Figure 2), Study 1 found support for predicting broad impact-level outcomes based on attributes of an individual in a protected class. Additional moderating factors were proposed and added to the Impact Model in Figure 3. In Study 2, Stone and Colella's (1996) model was adapted to examine select individual attributes and decision-level outcomes (Figure 4). No relationship was found when controlling for some of the attributes of an individual in a protected class (e.g., education, background) and when decision-level outcomes focused on initial access into an organization. Thus, potential mediating psychological consequences for observers was add to the adapted decision-level model (Figure 5).

In an effort to combine all models presented to this point, a Double Disadvantage Model of Factors Affecting the Treatment of Individuals in Organizations was created (see Figure 6). This model includes attributes of an individual in a protected class (e.g., ethnicity, race), attributes of observers (e.g., experience in HR), moderating factors (e.g., social status, education), mediating psychological consequences for observers (e.g., stereotyping), and decision-level outcomes (e.g., job offers, pay), all of which affect impact-level outcomes (i.e., employment and poverty).

Figure 6
Double Disadvantage Model of Factors Affecting the Treatment of Individuals in Organizations.



Moderating Factors

In Study 1, a number of moderating factors may have contributed to the double disadvantage effects; however, these factors could not be tested. Education levels of ethnic minorities and people with disabilities probably explain some of the effects seen in this study. Disability rates are higher among those with low levels of education. For example, 23% of adults ages 25 to 64 who had not completed high school had a severe disability. Among high school graduates and college graduates the respective figures were 9% and 3% (Bureau of the Census, 1994). Similarly, the nature and severity of a disability impacted employment figures: unemployment among adults ages 21-64 ears old without a disability was 19%, with a disability was 24%, and with a severe disability was 77% (Bureau of the Census, 1994). To explain the double disadvantage effects found, future research should explore these moderators as well as individual language difficulties, social status, criminal history, work ethic, and geographic differences in discriminatory attitudes.

Stage of Employment Decisions

One possible reason for the discrepancy of the results between studies is that double disadvantage effects may be suppressed by managers' fear of greater legal scrutiny in the organizational entry-based employment decisions tested: interviews granted, job offers made, salary and stock options offered. It is possible that the research methodology of Study 2 would yield double disadvantage effects among later employment outcomes such as promotions, performance ratings, salary increases, and turnover or more subtle employment outcomes such as mentoring. That is, organizations may provide protected groups with adequate access to the job (e.g., employment

interviews, job offers) for legal compliance and affirmative action reasons, but prejudice and discrimination may eventually drive these individuals out of the organization once more defensible reasons such as performance and discipline issues are collected. This finding would be consistent with outcomes of modern racism.

The variable used to assess recommendations into a developmental opportunity may be different from existing research. Past research has revealed racial and disability-based discrimination with regards to training and career advancement opportunities (Braddock & McPartland, 1987; Greenhaus & Parasuraman, 1993; U.S. EEOC, 1992). However, that research focused on training necessary to perform a job versus this study's focus on additional skill enhancement training as a reward for performance potential.

Strength of Condition

Another reason for the discrepancy could be the methodology used in Study 2. In this study, manipulation check responses substantiated the experimental condition that the candidate was Hispanic. However, resumes used in the comparison group did not give an indication of ethnicity. If the comparison resumes more explicitly stated that the candidate was White, more bias may have been revealed. Future research should provide a clearly defined comparison group for Hispanics to increase the chances of detecting double disadvantage effects.

Similarly, disabled candidates were compared to those whose disability status was unknown. This again potentially diminished the effect of detecting disability biases. Also, resumes reflecting a disabled candidate were purposely vague as to the type of disability and instead simply included "Disabled Community Leader of the Year Award" and "Disabled Advocate Association." Given that visible disabilities are often seen as

more favorable than invisible disabilities, what O'Keffe (1994) called a "disability hierarchy," specifying the nature of the disability may have revealed more bias.

From the manipulation check responses, 10% of participants reviewing the disability candidate resume thought the type of disability was physical and thus, visible. If resumes of the disabled candidate had indicated a specific invisible disability such as depression or alcoholism, double disadvantage effects may have been found. Stone and Colella (1996) suggest that disability research focus on specific types of disabilities within a specific context to avoid inconsistent disability definitions. In addition, if the disabled candidate had requested a special accommodation, the results may have differed because "special" treatment is often looked upon unfavorably by those without a disability (Bottrill & Hazer, 1995; Cleveland, Barnes-Farrell, & Huestis, 1996; Katzman, 1998).

Similarly, the resume information in Study 2 that was used to identify disabled candidates may have suppressed participants' biases. Disabled candidates were identified in resumes by their awards and membership in professional organizations (i.e., Disabled Community Leader of the Year Award, Disabled Advocate Association). These resume items may have given the participants' the perception that the candidate is a strong advocate for disabled individual's rights and therefore should be the last person you discriminate against. Future research should identify disabled candidates using methods that are less "charged".

Job Level Effects

Past research has shown double disadvantage effects when large discrepancies exist between job requirements and the type of disability possessed by the candidate

(Colella, DeNisi, Varma, & Lund, 1994). For instance, when looking to fill the position of sales clerk, a hiring manager might be less inclined to hire someone with a physical (and thus visible) disability such as cerebral palsy than someone with an invisible disability such as depression. The position of Sales Manager was selected because subjects might not see it as a job normally held by an ethnic minority or someone with a disability. However, a highly educated and well-experienced ethnic minority candidate with a disability might lead participants to perceive the candidate as a "rare find" and thus more suitable for the job. Discrimination may also exist more often in field offices with hourly labor since these offices are further removed from the scrutiny of the Human Resources department. Future research should investigate multiple jobs that may or may not traditionally be held by an ethnic minority with a disability.

Future Research

Though future research related to each study has been suggested, additional research can be summarized based on both studies and Stone and Colella's (1996) model. In the future, investigations of double disadvantage effects should be conducted across various attributes of disabled individuals including types of disabilities (visible and invisible) and disabilities with varying degrees of severity. Past research reveals that level of disability visibility (O'Keffe, 1994) and level of disability severity impacts the level of bias exhibited (Department of Labor, 1999; McNeil, 2000). Various job combinations that might not "fit" a disabled person (e.g., position of sales clerk and candidate with cerebral palsy) should also be investigated. Additionally, future research should investigate the possibility of "double diversity benefits" from double

disadvantaged groups such as enhanced creativity, improved problem solving, and increased ease of resource acquisition (Cox and Blake, 1991).

As the demographics of our workforce change because of greater numbers of Hispanics, aging baby boomers, and the likelihood of being disabled with age, the potential for double and triple disadvantage effects may increase. By understanding the unique perspectives of these groups we may better meet their needs and the needs of our shrinking workforce.

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Appendices

Dear Research Recruiter,

Thank you for agreeing to be a Research Recruiter for my dissertation research on employment recommendations. This document will provide the information you will need to identify and invite participants as well as collect responses and submit them for analysis.

Role of the Research Recruiter

Your role will be to recruit and invite qualified research participants within your organization. You will answer any questions that participants have and anonymously collect participants' research responses when they are complete. You will ensure that the participants' confidentiality and anonymity is maintained by asking participants to remove any identifying information from their submission. Finally you will submit all completed surveys to the research investigator.

Identifying Participants

From the organizational division/function that you support, please identify 10 to 20 employees that meet the following research criteria:

1. Must be 18 years of age or older
2. Must be currently or previously employed (within last 12 months) in the U.S. as a salaried, management (exempt status) employee
3. Must have a minimum of 1 year of experience making selection and hiring decisions

These 10 to 20 individuals will make up your Research Invitee List. If you are unsure whether an employee meets criteria #3, include them in your list of invitees as the research questionnaire will include this question to screen out those with less than 1 year of selection and hiring experience. Please do not invite any individuals that you directly or indirectly supervise.

Inviting Participants

Research Invitees can be invited by email or in person. When inviting individuals by email, send each invitee on the Research Invitee List an individual email message with the Research Invitation information shown below and one of the four attachments included in this message (cycle through each of the four attachments so each are sent equally). When inviting individuals in-person, print the Research Invitation and one of the attachments below (again cycled through in equal numbers). You will see that the attachments include an Informed Consent Form, Participant Instructions, a mock job description, four mock resumes, and an Employment Recommendations Questionnaire. Please familiarize yourself with these materials and let the research investigator know if you have any questions.

Collecting Responses

In order to fully protect the confidentiality and anonymity of participants you will need to provide a secure drop off location for the surveys. Please designate a secure location in your work area where participants can anonymously drop off their survey without your knowledge of their identity (such as a secure box in a common area). Only you as the Research Recruiters should have access to the surveys submitted to this location. Also please make it clear to participants that they should (1) remove all potentially identifying information off their response surveys, and (2) deliver their survey to the secure and completely anonymous location (box) that you designate.

Sending Responses Back

Once you have received 10 or more completed surveys, please send them back to the research investigator. For surveys completed by paper, please remove any identifying information from the documents and fax to 770-384-5055. In the event that surveys are sent to you by email (despite instructions to use the anonymous drop off location) please forward only the attachment to the research investigator via FocusTechResearch@att.net. Do not forward the participant's message and do not submit any information that could identify the individual by name, number, or other information.

Questions or Problems
If you run into problems or have questions please call the Research Investigator at 770-384-4832. Keep in mind, if your invitees have questions or comments they should go through you, the Research Recruiter. In order to protect their anonymity they should not contact the Research Investigator directly.

Thank you for your assistance and time.

Sincerely,

Chris Lovato
Research Investigator
FocusTechResearch@att.net
Work - 770-384-4832
Fax – 770-384-5055

Research Invitation

Greetings,

You are invited to participate in a research study and a brief questionnaire on employment decisions related to mock resumes. Your participation is completely voluntary (see attached Consent Form) and should take about 15 to 20 minutes. I, the Research Recruiter, selected you because I believe you meet the following research criteria:

1. Must be 18 years of age or older
2. Must be currently or previously employed (within last 12 months) in the U.S. as a salaried, management (exempt status) employee
3. Must have a minimum of 1 year of experience making selection and hiring decisions

If you do not meet one or more of the above criteria please let me know. If you meet the criteria and choose to participate, simply open the attached document and follow the instructions. The instructions will provide detail on the purpose of the research and your task as a participant.

Please submit your completed survey back to me via the confidential and anonymous drop off location I have set up at _____. Please do not include any identifying information on your survey (e.g., name, phone number, email address) in order to protect your anonymity. If you have any questions or concerns please let me know. Thank you.

Regards,

Your Name
Research Recruiter
Your contact information

Focus Technologies Inc.

Sales Manager Job Description

Job Code: 4431A743Z **Effective Date:** 9/3/2003

Position Purpose

The Sales Manager is responsible for delivering exceptional service and ensuring the attainment of the company's sales revenue, profit margin, and increased market share by leading a sales team, and establishing and sustaining customer relationships.

Primary Tasks and Responsibilities

- High level of autonomy to make decisions affecting customers, sales revenue, and profit.
- Conduct customer visits assisted by sales representatives.
- Work with sales team, Assistant Sales Managers and customers to solve problems and follow-up with customers to ensure satisfaction (e.g. phone calls, site visits)
- Awareness of market conditions and new products including sales/pricing/new account tracking.
- Monitor sales budgets to actual results for all sales representatives in the territory.
- Monitor, coach, and educate sales team to ensure they are building relationships with customers, determining their needs, and exceeding expectations in order to grow new and existing accounts.
- Responsible for appropriate selection, termination, performance appraisal, and professional development of assigned staff.

Scope & Environment

- Typically reports to the District Sales Manager.
- Direct/indirect reports typically include 2 Assistant Sales Managers and 10 Sales Representatives.
- Typically negotiates in a very competitive environment.
- Typically faces situations that are unstructured and require original approaches.
- Under regular pressure to meet deadlines, goals and must frequently deal with difficult customers.
- Typically requires overnight travel less than 10% of the time.

Minimum Qualifications

- Must be eighteen years of age or older
- Must pass a drug test and background check
- Education Required - The knowledge, skills and abilities typically acquired through the completion of a bachelor's degree program or equivalent degree in a field of study related to the job.
- Years of Relevant Work Experience - 7

Knowledge, Skills, Abilities and Competencies

- Effective written and oral communication skills are critical for customer and sales interactions
- In-depth knowledge of sales techniques and marketing plans
- Effective leader with ability to supervise, coach, and develop others
- Computer knowledge using MS Word and MS Excel at an intermediate level
- Ability to influence and create sense of urgency in others

6161 Merigold Way
Atlanta, GA 30150
770-258-4181
medwards94@plugin.com

Michael Edwards

Career Objective

Obtain a sales leadership position with a progressive customer service oriented company. Make an impact on the bottom line of an organization by effectively driving sales and leading others.

Experience

2001–Present Verigate Industries Deerpark, GA
Sales Manager
- Developed market for regional electronic components distributor
- Led a sales team to increase sales from $80 million to $100 million
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Assistant Sales Manager
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- Led 10 employees in two sales groups
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Sales Team Supervisor
- Provided customer service and team direction for major produce distributor
- Expanded sales team from 5 to 20 representatives
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1991–1993 TempWare, Inc. Southbay, VT
Sales Representative
- Served as sales expert in kitchen supply division
- Received company's highest sales award four years in a row

Education

1989–1993 South State University Southbay, VT
- B.A., Business Administration
- Minor in Computer Science

Clubs & Organizations

Treasurer, Sales & Marketing Consortium, 2001 – Present
John Cooper Leadership Award, 2000
SSU – Student Honors Nomination, 1993

Jonathan Williams

Profile

Results-oriented and accomplished professional with a proven record of increased responsibility. More than 8 years experience in sales, materials management, supply chain management, operations, account management, personnel management, and sales support. Highly proficient in project implementation and management, cost analysis, coaching, resource utilization, process analysis, and customer service.

Professional Experience

Regional Sales Manager
Foundry Services Atlanta, GA May 1999 - Present

- Manage a $25 million district that includes Georgia and Alabama
- Responsible for the leadership and development of thirteen sales representatives
- Achieved double-digit growth four consecutive years generating $7 million in incremental revenue
- Developed integrated supply relationship with Fortune 10 customer resulting in $1 million management fee and $4 million in new sales for the company

Key Account Manager
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- Managed 10 large industrial accounts with focus on the accounts of three consumer product plants as well as a food and beverage producer
- Performed manual process crossover of 4 storerooms to maximize product and sales opportunities
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- Responsible for account management and growth of numerous manufacturing plants in the Eastern region
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Professional Groups

- Gold Ring Speakers League – 2000 - Present
- Association of Manufacturing & Production – 1995 – Present
- Sales Professional Association – 1990 – Present

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Alexander Mason

Summary

Customer-focused professional with strong persuasive communication and follow-through skills. A results-driven leader who envisions the big picture, and implements the appropriate tactical approaches to reach successful conclusion.

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- Responsible for account management and growth of two of the company's top twelve financial institutions that produced $38 million in annual sales.
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- Managed $3M territory growing at 20% over prior year.
- Assisted District Sales Manager in developing a tactical selling and training program for the sales force for product applications to be applied to the appropriate market segments.

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Assistant Manager

- Increased floor sales per square foot from $4.00 to $11.69 within a six-month period.
- Managed a four-person team of section managers.

Other Achievements

Completed National Accounts Sales & Marketing training, 1999
Received Annual Achievers Award, 1998.
Completed Situational Sales Negotiation, Bay Group Intl., 1998

Appendix D. Experimental Condition Resumes – Non-Hispanic Non-Disabled

Charles Martin

14495 Ford Drive
Chatsworth, GA 30119

555-674-2121
cm1129@netspan.com

Objective

A leadership position that allows me to leverage my experience in sales management, employee selection and development, major account management and strategic planning.

Work Experience

Evanston Power

National Account Manager - November 1998 to October 2003, Colfax, GA

- Led national sales and marketing efforts to Fortune 500 customers including D&O, Kegem, GRI Jet Engine, and Fred's.
- Produced $5.5 million in new sales and grew base business 20% over previous year.
- Evanston Power's first field based National Account Manager. Worked with senior management in developing job description and performance objectives.

Regional Sales Specialist – March 1996 to November 1998, Colfax, GA

- Marketing and sales training position reporting to Regional Vice President.
- Conducted sales training programs for more than 30 sales professionals.
- Developed marketing and pricing strategies for Region's top ten customers.

Sales Accountant – April 1995 to March 1996, Colfax, GA

- Responsibilities included sales tracking, cost accounting procedures, and training development.

Stratech Solutions

Staff Accountant – May 1994 to March 1995, Summerville, CA

- Responsibilities included cost accounting procedures to reconcile inventories at aluminum plants, and clearing up past due payables.

Education

Northern Mountain University – 1988 to 1992, Peak, CO
Bachelor of Arts, Managerial Economics with honors

Training

Daniel Walters Effective Negotiating Seminar, 2002
TrainExact Courses: Sales Presentations, Project Mgmt., & Team Facilitation, 2001
Microsoft Courses: Word, Excel, Access, Project, & Office Suite, 1999-2001

Awards & Affiliations

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Business Leaders of America, 2000-Present
Presidents Club – Evanston Power employee recognition, 1998
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Awards & Affiliations

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Business Leaders of America, 2000-Present
Presidents Club – Evanston Power employee recognition, 1998
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Disabled Community Leader of the Year Award, 1996

Appendix D. Experimental Condition Resumes – Hispanic Non-Disabled

Carlos Martinez

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Focus Technologies Inc.

Employment Recommendations Questionnaire

Sales Manager Selection Committee

Employment Recommendations

Following are 5 independent scenarios each with their own assumptions. All scenarios build on the task of making employment recommendations as a member of the Sales Manager Selection Committee. The recommendations you provide will be combined with the other three Selection Committee members' recommendations to arrive at a final decision.

Scenario #1

Assumptions: Each of the four resumes in this packet has gone through an initial screen by an internal recruiter to insure each candidate meets the minimum qualifications of the job. Assume there are no other selection screens beyond the interview.

Interview Recommendations: Based on the four resumes you reviewed, which two candidates would you recommend be given a selection interview? Please enter the names on the spaces below.

1. _____ 2. _____

Scenario #2

Assumptions: Now suppose all four candidates were interviewed for a Sales Manager position. All four candidates passed the interview and received "comparable" scores.

Job Offer Recommendations: Which two candidates would you recommend for a Sales Manager position? Please enter the names on the spaces below.

1. _____ 2. _____

Which one of the two remaining candidates would you recommend for an Assistant Sales Manager position? Please enter the name on the space below.

1. _____

Scenario #3
Assumption: Now suppose all four candidates will be offered the Sales Manager position.

Starting Salary Recommendations: What starting salary would you recommend for each of the four candidates? The annual salary of all Sales Managers must fall between $40,000 and $60,000. Please enter the starting salary recommendations in the spaces below.

1. Michael Edwards – Recommended Starting Salary = _____
2. Jonathan Williams – Recommended Starting Salary = _____
3. Carlos Martinez – Recommended Starting Salary = _____
4. Alexander Mason – Recommended Starting Salary = _____

Scenario #4
Assumption: All four candidates will be offered the Sales Manager position.

Stock Option Recommendations: How would you recommend 3,000 stock options be distributed to the four candidates? The stock options are for the purchase of future shares of the company stock at current prices (e.g., if 1,000 options granted at a price of $30/share were sold at $35/share, they would be worth $5,000). Please enter the recommended number of stock options in the spaces below. The total number of stock options distributed must add up to 3,000.

1. Michael Edwards – Recommended Number of Stock Options = _____
2. Jonathan Williams – Recommended Number of Stock Options = _____
3. Carlos Martinez – Recommended Number of Stock Options = _____
4. Alexander Mason – Recommended Number of Stock Options = _____

Total Stock Options = 3,000

Scenario #5
Assumption: All four candidates will be offered the Sales Manager position.

High Potential Development Program Recommendation: Which one candidate would you recommend for a high potential development program? The program provides high potential Sales Managers with training, developmental assessments, and exposure to Executive-level leaders with the expectation that within two years he/she would earn a promotion to District Sales Manager. Please enter the name on the space below.

1. _____

Background Information

Please answer the following items about your background and experience. All information will be kept strictly confidential and reported only at a large group level.

1) What is your ethnicity?
___ White or Caucasian ___ African American ___ Hispanic or Latino
___ Asian or Pacific Islander ___ American Indian or Native American

2) What is your sex?
___ Female ___ Male

3) Do you have any disabilities?
___ Yes ___ No
If yes, please specify the type of disability _____

4) What is your age? _____

5) What is your current work function or department?
___ Administrative ___ Communications ___ Finance
___ Government Relations ___ Human Resources ___ Information Technology
___ Legal ___ Marketing ___ Operations
___ Sales ___ Other, please specify _____

6) What is your current organization's industry?
___ Consumer Products ___ Consulting ___ Financial
___ Government ___ Healthcare ___ Insurance
___ Manufacturing ___ Pharmaceuticals ___ Retail
___ Technology ___ Transportation ___ Utilities
___ Other, please specify _____

7) How many years of experience do you have making selection and hiring decisions? _____

Please do not refer back to the resumes for the following questions.

8) Did you think any of the four candidates were ethnic minorities? ___ Yes ___ No
If yes, please specify the name of the candidate(s) and their ethnicity _____
_____

9) Did you think any of the four candidates were females? ___ Yes ___ No
If yes, please specify the name of the candidate(s) _____

10) Did you think any of the four candidates were disabled? ___ Yes ___ No
If yes, please specify the name of the candidate(s) and the type of disability _____
_____

11) Did you think any of the four candidates were 40 years of age or older? ___ Yes ___ No
If yes, please specify the name of the candidate(s) _____

Please return this document to the Research Recruiter as instructed in the research invitation.

Thank you!

Employment Recommendations Research
Participant Instructions

Research

Thank you for your participation in this research on employment recommendations made based on fictitious resumes. The purpose of this research is to understand how specific resume content impacts final employment decisions. Place yourself in the following situation description as you complete the study.

The Situation

You are a manager with Focus Technologies Inc., a leading manufacturer of camera equipment for photography professionals. The company is attempting to hire new talent into the Sales Manager positions. These positions play a critical role in driving the company's profitability.

You have been asked to serve on a four-person selection committee tasked with reviewing resumes received from the company's recruiting department. You will make recommendations on:

- Who should be interviewed
- Who should be hired
- What their starting salaries should be
- What their stock option awards should be
- Who belongs in a fast track development program

Assume each of the four resumes in this packet has gone through an initial screen by an internal recruiter to insure each candidate meets the minimum qualifications of the job. Assume there are no other selection screens beyond the interview.

Participation Steps

6. Review the Informed Consent Form for an understanding of the risks of this research and your rights as a participant on page 2.
7. Review the job description for the Sales Manager position on page 4.
8. Review the four Sales Manager candidate resumes on pages 5 – 8.
9. Complete the Employment Recommendations Questionnaire on pages 9 – 11.
10. Submit your Employment Recommendations Questionnaire to your Research Recruiter as instructed in your research invitation.

If you have questions please contact your Research Recruiter.

Thank you for your participation!

Keith James & Chris Lovato
Department of Psychology
Colorado State University

COLORADO STATE UNIVERSITY
INFORMED CONSENT TO PARTICIPATE IN A RESEARCH PROJECT

TITLE OF PROJECT: Employment Recommendations Research

NAME OF PRINCIPAL INVESTIGATOR: Keith James

NAME OF CO-INVESTIGATOR: Chris Lovato

CONTACT NAME AND PHONE NUMBER FOR QUESTIONS/PROBLEMS: Chris Lovato – 770-384-4832

PURPOSE OF THE RESEARCH: The purpose of this research is to understand how specific resume content impacts final employment decisions.

PROCEDURES/METHODS TO BE USED: You will be given a scenario where you are a manager with a fictitious company that is hiring Sales Managers. You are tasked with reviewing a mock Sales Manager job description, four mock resumes and completing a questionnaire where you will make recommendations on who should be interviewed, who should be hired, what their starting salaries should be, what their stock option awards should be, who belongs in a fast track development program. Lastly you will be asked 11 questions on your background. The total time involved should be 15 to 25 minutes.

RISKS INHERENT IN THE PROCEDURES: There are no known risks associated with this study. It is not possible to identify all potential risks in research procedures, but the researcher(s) have taken reasonable safeguards to minimize any known and potential, but unknown, risks.

BENEFITS: There are no known benefits associated with this study.

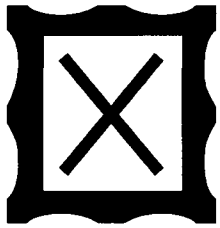
CONFIDENTIALITY: All information you provide will be held strictly confidential. Any identifying information submitted on email or faxed documents will be removed and destroyed. All information will be reported only at a large group level to protect your anonymity.

LIABILITY: The Colorado Governmental Immunity Act determines and may limit Colorado State University's legal responsibility if an injury happens because of this study. Claims against the University must be filed within 180 days of the injury.

Questions about participants' rights may be directed to Celia S. Walker at (970) 491-1563.

PARTICIPATION: Your participation in this research is voluntary. If you decide to participate in the study, you may withdraw your consent and stop participating at any time without penalty or loss of benefits to which you are otherwise entitled.

By submitting your responses as instructed, you acknowledge that you have read the information stated and willingly consent to participate in this research. Your submission also acknowledges that you have received, on the date submitted, a copy of this document.



Focus Technologies Inc.

Sales Manager Selection Committee Packet

Job Description & Resumes

Focus Technologies Inc.

Sales Manager Job Description

Job Code: 4431A743Z **Effective Date:** 9/3/2003

Position Purpose

The Sales Manager is responsible for delivering exceptional service and ensuring the attainment of the company's sales revenue, profit margin, and increased market share by leading a sales team, and establishing and sustaining customer relationships.

Primary Tasks and Responsibilities

- High level of autonomy to make decisions affecting customers, sales revenue, and profit.
- Conduct customer visits assisted by sales representatives.
- Work with sales team, Assistant Sales Managers and customers to solve problems and follow-up with customers to ensure satisfaction (e.g. phone calls, site visits)
- Awareness of market conditions and new products including sales/pricing/new account tracking.
- Monitor sales budgets to actual results for all sales representatives in the territory.
- Monitor, coach, and educate sales team to ensure they are building relationships with customers, determining their needs, and exceeding expectations in order to grow new and existing accounts.
- Responsible for appropriate selection, termination, performance appraisal, and professional development of assigned staff.

Scope & Environment

- Typically reports to the District Sales Manager.
- Direct/indirect reports typically include 2 Assistant Sales Managers and 10 Sales Representatives.
- Typically negotiates in a very competitive environment.
- Typically faces situations that are unstructured and require original approaches.
- Under regular pressure to meet deadlines, goals and must frequently deal with difficult customers.
- Typically requires overnight travel less than 10% of the time.

Minimum Qualifications

- Must be eighteen years of age or older
- Must pass a drug test and background check
- Education Required - The knowledge, skills and abilities typically acquired through the completion of a bachelor's degree program or equivalent degree in a field of study related to the job.
- Years of Relevant Work Experience - 7

Knowledge, Skills, Abilities and Competencies

- Effective written and oral communication skills are critical for customer and sales interactions
- In-depth knowledge of sales techniques and marketing plans
- Effective leader with ability to supervise, coach, and develop others
- Computer knowledge using MS Word and MS Excel at an intermediate level
- Ability to influence and create sense of urgency in others

6161 Merigold Way
Atlanta, GA 30150
770-258-4181
medwards94@plugin.com

Michael Edwards

Career Objective

Obtain a sales leadership position with a progressive customer service oriented company. Make an impact on the bottom line of an organization by effectively driving sales and leading others.

Experience

2001–Present Verigate Industries Deerpark, GA
Sales Manager
- Developed market for regional electronic components distributor
- Led a sales team to increase sales from $80 million to $100 million
- Implemented new tracking system that increased profits by 13%

1997–2001 Illuminations Hampton, GA
Assistant Sales Manager
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Which one of the two remaining candidates would you recommend for an Assistant Sales Manager position? Please enter the name on the space below.

1. _____

Scenario #3
Assumption: Now suppose all four candidates will be offered the Sales Manager position.

Starting Salary Recommendations: What starting salary would you recommend for each of the four candidates? The annual salary of all Sales Managers must fall between $40,000 and $60,000. Please enter the starting salary recommendations in the spaces below.

1. Michael Edwards – Recommended Starting Salary = _____
2. Jonathan Williams – Recommended Starting Salary = _____
3. Carlos Martinez – Recommended Starting Salary = _____
4. Alexander Mason – Recommended Starting Salary = _____

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Stock Option Recommendations: How would you recommend 3,000 stock options be distributed to the four candidates? The stock options are for the purchase of future shares of the company stock at current prices (e.g., if 1,000 options granted at a price of $30/share were sold at $35/share, they would be worth $5,000). Please enter the recommended number of stock options in the spaces below. The total number of stock options distributed must add up to 3,000.

1. Michael Edwards – Recommended Number of Stock Options = _____
2. Jonathan Williams – Recommended Number of Stock Options = _____
3. Carlos Martinez – Recommended Number of Stock Options = _____
4. Alexander Mason – Recommended Number of Stock Options = _____

Total Stock Options = 3,000

Scenario #5
Assumption: All four candidates will be offered the Sales Manager position.

High Potential Development Program Recommendation: Which one candidate would you recommend for a high potential development program? The program provides high potential Sales Managers with training, developmental assessments, and exposure to Executive-level leaders with the expectation that within two years he/she would earn a promotion to District Sales Manager. Please enter the name on the space below.

1. _____

Background Information

Please answer the following items about your background and experience. All information will be kept strictly confidential and reported only at a large group level.

1) What is your ethnicity?
___ White or Caucasian ___ African American ___ Hispanic or Latino
___ Asian or Pacific Islander ___ American Indian or Native American

2) What is your sex?
___ Female ___ Male

3) Do you have any disabilities?
___ Yes ___ No
If yes, please specify the type of disability _____

4) What is your age? _____

5) What is your current work function or department?
___ Administrative ___ Communications ___ Finance
___ Government Relations ___ Human Resources ___ Information Technology
___ Legal ___ Marketing ___ Operations
___ Sales ___ Other, please specify _____

6) What is your current organization's industry?
___ Consumer Products ___ Consulting ___ Financial
___ Government ___ Healthcare ___ Insurance
___ Manufacturing ___ Pharmaceuticals ___ Retail
___ Technology ___ Transportation ___ Utilities
___ Other, please specify _____

Please do not refer back to the resumes for the following questions.

7) How many years of experience do you have making selection and hiring decisions? _____

8) Did you think any of the four candidates were ethnic minorities? ___ Yes ___ No
If yes, please specify the name of the candidate(s) and their ethnicity _____
_____

9) Did you think any of the four candidates were females? ___ Yes ___ No
If yes, please specify the name of the candidate(s) _____

10) Did you think any of the four candidates were disabled? ___ Yes ___ No
If yes, please specify the name of the candidate(s) and the type of disability _____
_____

11) Did you think any of the four candidates were 40 years of age or older? ___ Yes ___ No
If yes, please specify the name of the candidate(s) _____

Please return this document to the Research Recruiter as instructed in the research invitation.

Thank you

Table 20.
Logistic Regression of Interview Recommendations with Covariates

Variable	Step 1 β	Step 1 Standard Error	Step 1 *p*	Step 2 β	Step 2 Standard Error	Step 2 *p*	Step 3 β	Step 3 Standard Error	Step 3 *p*
HR Function	.50	.36	.16	.42	.36	.25	.39	.37	.28
Years Experience	-.07	.04	.09	-.06	.04	.14	-.06	.04	.15
Participant's Age	.01	.03	.68	.01	.03	.78	.01	.03	.75
Participant's Sex	.27	.34	.43	.20	.35	.56	.19	.35	.58
Ethnicity				-.44	.36	.22	-.11	.50	.82
Disability				-.39	.35	.27	-.10	.46	.82
Ethnicity x Disability							-.66	.70	.34
Constant	-.93	1.01	.36	-.34	1.09	.76	-.52	1.1	.64
R^2		.04			.06			.07	
$\chi 2$		6.77	.15		9.55	.15		10.46	.16

Table 21.
Cumulative Logistic Regression of Job-Type with Covariates

Variable	β	Standard Error	Significance *p*
HR Function	.01	.32	.98
Years Experience	.01	.04	.85
Participant's Age	.01	.03	.83
Participant's Sex	.04	.31	.89
Ethnicity	-.76	.44	.08
Disability	-.33	.45	.46
Ethnicity x Disability	.47	.62	.45
R^2		.03	
$\chi 2$		3.75	.81

Table 22.
ANOVA for Salary Recommendations with Covariates

Variable	*MS* *(millions)*	*F* *(1,152)*	Significance *p*
HR Function	.03	.00	.97
Years Experience	129	4.59*	.03
Participant's Age	43.4	1.54	.22
Participant's Sex	.84	.03	.86
Ethnicity	52.6	1.87	.17
Disability	40.7	1.45	.23
Ethnicity x Disability	46.8	1.66	.20

* $p < .05$

Table 23.
ANOVA for Stock Option Recommendations with Covariates

Variable	*MS* (thousands)	*F* (1,151)	Significance *p*
HR Function	67.7	1.10	.30
Years Experience	6.5	.11	.75
Participant's Age	.80	.01	.91
Participant's Sex	3.6	.06	.81
Ethnicity	22.1	.36	.55
Disability	1.1	.02	.89
Ethnicity x Disability	4.9	.08	.78

Table 24.
Logistic Regression of High-Potential Program Recommendations with Covariates

Variable	Step 1 β	Step 1 Standard Error	Step 1 *p*	Step 2 β	Step 2 Standard Error	Step 2 *p*	Step 3 β	Step 3 Standard Error	Step 3 *p*
HR Function	.20	.38	.59	.06	.39	.87	.12	.39	.76
Years Experience	.04	.04	.41	.05	.04	.28	.05	.04	.30
Participant's Age	-.03	.04	.34	-.04	.04	.33	-.04	.04	.30
Participant's Sex	-.33	.36	.36	-.49	.37	.20	-.47	.38	.21
Ethnicity				-.81*	.40	.04	-1.43*	.60	.02
Disability				-.11	.37	.76	-.55	.48	.25
Ethnicity x Disability							1.15	.78	.14
Constant	.10	1.11	.93	.64	1.20	.60	.90	1.21	.46
R^2		.01			.04			.06	
$\chi 2$		2.00	.74		6.51	.37		8.74	.27

* $p < .05$

Table 25.
Multiple Regression of Early Recommendations Predicting Salary Recommendations

Variable	β	*t (149)*	Significance *p*
Interview Recommendations	-.39	-3.61**	.00
Job Recommendations	-.08	-.69	.49
R^2		.20	
F		18.88**	.00

** $p < .01$

Table 26.
Multiple Regression of Early Recommendations Predicting Stock Recommendations

Variable	β	*t (148)*	Significance *p*
Interview Recommendations	-.36	-3.42**	.00
Job Recommendations	-.17	-1.60	.11
R^2		.25	
F		24.57**	.00

** $p < .01$

Table 27.
Logistic Regression of Early Recommendations Predicting Development Program Recommendations

Variable	β	Standard Error	Significance *p*
Interview Recommendations	.09	.62	.88
Job Recommendations	1.39	.48**	.00
Constant	-1.42	1.02	.162
R^2		.15	
$\chi 2$		25.20**	.00

** $p < .01$

Table 28.
Multiple Regression of Average Salary Offers and Conditional Candidate Salary Offers

Variable	β	*t (148)*	Significance *p*
Average Salary Offers	.23	2.87**	.00
R^2		.05	
F		8.25**	.00

** $p < .01$