DISCRIMINATION AND HEALTH:

HOW BEING HISPANIC CAN MAKE YOU SICK

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DISCRIMINATION AND HEALTH:

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ABSTRACT

The perception of discrimination is a stressor that can lead to a reduction in an individual's reserve capacity and an increase in negative emotions, among other deleterious effects. I tested the Reserve Capacity Model as it relates to measures of physical and mental-health related quality of life. A sample of 236 Hispanic Americans completed measures of perceived discrimination, optimism, social support, and symptoms of trait anxiety. Path analysis was used to examine relationships between these variables and the outcome variables of physical and mental health-related quality of life. Results indicated direct and negative relationships between perceptions of discrimination and physical and mental health-related quality of life (r = -.18, p < .05; r = -.36, p < .001, respectively). Both these relationships were partially mediated by reserve capacity and negative emotions (χ^2 [6] = 16.26, p < .05; χ^2 /df = 2.70; CFI = .95; RMSEA = .08).

APPROVAL PAGE

The faculty listed below, appointed by the Dean of the College of Arts and Sciences have examined a thesis titled "Discrimination and Health: How Being Hispanic Can Make You Sick," presented by Alisha D. Adams, candidate for the Master of Arts degree, and certify that in their opinion it is worthy of acceptance.

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CONTENTS

LIST OF TABLES

LIST OF ILLUSTRATIONS

Figure Page

CHAPTER 1

OVERVIEW

Health disparities have existed across racial groups in the United States for centuries, with minorities having higher rates of mortality and chronic disease infections than European Americans (National Center for Health Statistics, 2007). The root causes for these disparities have been best explained by disparities in socioeconomic status (SES) and discrimination. The relationship between discrimination and chronic health conditions, such as cardiac health conditions, hypertension, diabetes, and low back pain, has been clearly demonstrated through research (e.g., Edwards, 2008, Ryan, Gee, & Laflamme, 2006; Trivedi & Ayanian 2006). Limited research has been conducted on discrimination and health outcomes with Hispanic Americans. This is hypothesized to occur for a number of reasons. Health disparities are more often documented for African Americans compared to Hispanic Americans (Wei, Mitchell, Haffner, & Stern, 1996). Researchers also face additional obstacles when conducting studies with Hispanic populations, such as language barriers, acclimation to the community, exposure to individuals outside of their minority group, and the target population's fear of participation in research activities (Cavazos-Rehg, Zayas, & Spitznagle, 2007). These concerns are among many that create hardships in studying health outcomes in Hispanic Americans.

In order to understand how discrimination translates into poor health for Hispanic Americans, more research that examines the factors that connect these concepts is needed. In 2003, Gallo and Matthews proposed a theoretical model, titled the Reserve Capacity Model (RCM), that can be used to understand this relationship. Gallo and Matthews (2003) explained that individuals with low SES face greater levels of stress. This model posits that

to handle stressful events, individuals turn to their "reserves," which include tangible resources (e.g., money, transportation), interpersonal resources (e.g., social support), and intrapersonal resources (e.g., self-esteem, optimism). When a person is of low SES, they inherently have lower tangible resources. Minorities in the US are exposed to unequal and unfair treatment based on race (Williams, 1999). The perception of discrimination has been conceptually defined as a source of stress (Krieger, 1990). This experience results in an increased activation of the sympathetic nervous system, equal to the response of stressors such as those experienced during stressful social interactions, trauma, or major life events (Mays, Cochran, & Barnes, 2007). The effects of stress, such as in the perception of discrimination, causes a depletion in an individual's "reserves" of interpersonal and intrapersonal resources. This results in negative emotions, such as anger, hostility, depression, and anxiety. The final outcome of this model includes poor health outcomes.

In this project, I tested the Reserve Capacity Model in a sample of Hispanic Americans living in the Kansas City area. Anticipating a floor effect for SES within my sample, I did not measure this variable. I posited that stress, in the form of perceived discrimination, would be the first variable within the model to be measured. To measure reserve capacity, I collected data on measures of optimism and social support. Negative emotions were reflected through a measure of anxiety. Finally, participants were asked to complete a measure of health-related quality of life. According to the RCM, I expected to find a direct negative relationship between perceptions of discrimination and health-related quality of life, which was found. This relationship was partially mediated by reserve capacity and negative emotions. In summary, perceived discrimination was negatively associated with reserve capacity, which, in turn, was negatively associated with negative

emotions. Negative emotions, in turn, were negatively associated with health-related quality of life. This project helps to close the gap of information about health disparities and perceptions of discrimination among Hispanics living in the US.

CHAPTER 2

REVIEW OF LITERATURE

Since the 1700s, millions of families have chosen to come to the United States, some for political reasons, some for religious reasons, and some just hoping to provide a better life for their children or themselves. For generations, America was equivalent to the land of opportunity, the chance for a new beginning, and a hope for a better future. Unfortunately, this land of opportunity is not without obstacles. Many minorities in the United States face deteriorating health at rates much higher than the European American majority. Understanding how race ultimately influences health is essential.

Race and Health

Ethnicity is typically associated with an individual's geographic country of origin. It reflects memberships within a group that has a similar culture, shared beliefs, and national origin (Edwards, Fillingim, & Keefe, 2001). Contrary to ethnicity, race is a social construct. It is more commonly associated with skin color or language and less with genetic factors. The classification of racial groups has been rooted in racism as a means to justify the unequal treatment of certain groups (Williams, 1999). Krieger (2005) noted that there is no aspect of biology that is not impacted by the history and sociology experienced by an individual. In this way, individuals literally come to express their race by incorporating the biological and social worlds in which they live.

A growing body of research suggests a strong link between race and health. In particular, research suggests that racism affects health in a number of ways. For instance, racism can result in segregation, fewer educational and employment opportunities, and reduced socioeconomic status (Williams, 1999). These, in turn, shape a number of health-

related constructs such as access to health care, quality of physician treatment, and access to necessary medications (Harrell, Hall, & Taliaferro, 2003). Racism can have a more direct impact on health via exposure to toxins and poor living conditions found in impoverished neighborhoods, water contamination, inadequate heating, and the potential to be a victim of a crime (Williams, 1999). Exposure to racism in one's lifetime is associated with greater risk for hypertension, diabetes, stroke, and other conditions (Gravlee, 2009). Chronic health conditions generally develop over a long period of time, and are often diagnosed years after the initial onset of a disease, for example hypertension, diabetes, cancer and cardiac conditions (Williams & Mohammad, 2009).

Self-reported rates of overall health vary by racial groups, with 13.0% of Hispanic Americans reporting fair or poor health, whereas only 8.4% of European Americans report being in fair and poor health. In addition to self-reported health status, significant differences are also found in disease rates by racial groups. The prevalence of diabetes is nearly double for Hispanic American individuals, 15.7%, compared to European American individuals, 8.8% (National Center for Health Statistics, 2007). Mortality rates between European Americans and minorities also vary distinctly. In a study reviewing death rates between 1945 and 1999, researchers found that life expectancy has increased steadily for European Americans in the last fifty years, but has been slow to increase for minorities. Estimating the mortality rates of Hispanic Americans is extremely difficult and typically inaccurate for a number of reasons. Upon inspection of vital statistics, researchers Wei, Mitchell, Haffner, and Stern (1996) found a significant flaw in how Hispanic Americans are recorded by race. Approximately 20% of all deaths in the US of Hispanic descent are coded as "non-Hispanic white" on death certificates. This would erroneously cause a lower reported rate of mortality.

Additional categorization differences, such as classification of being Mexican, Hispanic, Latino, Latin American, or Puerto Rican, add further differentiation to statistics, making accurate comparisons difficult. In comparing mortality rates of other minority groups, one study indicated that 4.3 million more African Americans died prematurely than European Americans between 1945 and 1999. The overall age adjusted death rate for African Americans was more than 30% higher than it was for European Americans in 2004 (Gravlee, 2009).

Discrimination and Health

Despite many advances in society, discrimination, racism, and stereotyping continue to exist and thrive in the United States. The National Opinion Research Center (1990, as cited by Williams, 1999) in Chicago published statistics citing that most European Americans believed that their personal ethnic group is superior to all other ethnic minority groups, with African Americans being the most negatively viewed race, followed by negative views of Hispanic Americans. In the last 20 years, Hispanic Americans have been subjected to "semislave labor," and cultural oppression similar to that experienced by African Americans 60 years ago. These actions have given rise to the stereotype that Hispanics (especially Mexicans) are lazy, indecent and incompetent (Dixon & Rosenbaum, 2004). Research by Espenshade and Hempstead (1996) found that 70% of European Americans believe that most immigrants are here illegally, even though existing literature indicates that roughly 66% of the annual increase in US immigrants result from legal arrivals. Another study conducted by Alba, Rumbaut, and Marotz (2005) found that among stereotypical views held of minorities, European Americans were likely to agree with statements that Hispanic

Americans tend to be more prone to violence, that Hispanic immigrants are responsible for higher crime rates, and that Hispanics cause US citizens to lose their jobs.

Racist acts constitute discrimination, which "is operationally defined as beliefs, attitudes, institutional arrangements, and acts that tend to denigrate individuals or groups because of phenotypic characteristics or ethnic group affiliations" (Clark, Anderson, Clark, & Williams, 1999, p. 805). It is an insidious, unavoidable, and chronic reality of daily life for many minorities (Peters, 2004). Perceived discrimination is the awareness or belief that a situation is discriminatory. The current literature suggests that an individual need only *perceive* an act or situation as racist to experience the deleterious effects of discrimination (Burgess et al., 2008). Thus, discrimination is not only harmful in the context of those experiences that are objectively defined as discriminatory or racist.

Discrimination is often deeply embedded in institutions and political structures in society, whereby it persists for generations. Such forms of discrimination are not always easily identified, particularly by the majority culture which creates these policies (Williams & Mohammed, 2009). Therefore, the mere perception of discrimination is just as meaningful, stressful, and damaging as acts that are classified as "discriminatory" by the majority culture. Further, acts of discrimination vary by ethnic group. For example, new immigrants report lower rates of discrimination, which may be due to their unfamiliarity with the dominant culture of the United States. Research does show that as time in the US increases, immigrants' perception of discrimination also increases (Gee, Ryan, Laflamme, & Holt, 2006). Immigrants who are undocumented, or who are in the process of applying for citizenship, may feel more vulnerable and reluctant to report discrimination or mistreatment by others (Cavazos-Rehg, Zayas, & Spitznagel, 2007).

It follows, then, that one way a person's race may translate into health disparities is through the experience or perception of discrimination. The continuous perception of discrimination can lead to increased heart rate, blood pressure, and hypervigilance (Mays et al., 2007). Utsey and Hook (2007) conducted a study where they measured race-related stress, psychological distress, and heart rate variability in a sample of African Americans. Results indicated that as race-related stress increased, psychological distress also increased. In a study by Salomon and Jagusztyn (2008), a sample of African Americans, Hispanic Americans, and European Americans were each exposed to a standardized situation that could potentially be perceived as discriminatory. Results showed that among Hispanic American women in the study, a situation perceived to be discriminatory resulted in an increase in resting systolic blood pressure. Most recently, research by Richman, Pek, Pascoe, and Bauer (2010) found that perceived discrimination was positively related to ambulatory blood pressure among African Americans in their study. This suggests that perceived discrimination alone may result in increased cardiovascular reactivity and put individuals at a greater risk of cardiac disease or related conditions.

Numerous studies have documented discrimination against minorities within the healthcare system. Reduced access to care, reduced time with physicians, and disengagement of professionals with minority patients all contribute to a reduction in services to minorities (Burgess, Ding, Hargreaves, van Ryn, & Phelan, 2008). Research specific to Hispanic Americans is scarce, likely due to limited access to health care and health insurance. The existing literature on other minority groups demonstrates that after adjustment for SES, health insurance, and socioeconomic status, African Americans are less likely than European Americans to receive even the most common diagnostic and treatment

procedures covered by Medicare. In fact, only four procedures are more commonly performed on African Americans than European Americans, which include limb amputation, ulcer decubitus (i.e., surgical removal of infected bedsores), implantation of shunts for hemodialysis, and removal of both testes. All four of these procedures are associated with late diagnosis or inferior treatment of existing medical conditions (Williams, 1999).

According to the Commonweather Fund 2001 Healthcare survey, 19% of Hispanic Americans reported perceiving some form of discrimination in terms of being treated without respect or being judged by healthcare providers (Shavers & Shavers, 2006). According to Burgess et al. (2008), the perception of discrimination was related to underutilization of medical care and mental health care services among Hispanic Americans. Research is amassing that suggests perceptions of discrimination, as opposed to simply being a member of a minority group, plays an important role in a variety of physical health outcomes.

Discrimination and health conditions. Cardiac diseases are the leading cause of death in the United States. According to the National Center for Health Statistics (2007), for over fifty years heart disease has persistently been the highest cause of mortalities, affecting Hispanic Americans, African Americans, and European Americans at roughly equal rates. Once diagnosed with cardiovascular disease, Hispanic Americans are 1.3 times more likely to die due to complications related to the disease, as compared to European Americans. Additionally, Hispanic Americans are almost three times more likely than European Americans to be overweight and have high blood pressure (Wei et al., 1996).

Hypertension is the most frequently diagnosed health condition in the United States (Cherry, Hing, Woodwell, & Rechtsteiner, 2008). In 2007, The National Center for Health Statistics reported that 31.3% of the US population had been diagnosed with hypertension.

Hispanic Americans have statistically lower rates of hypertension than other minority groups, however this statistic is misleading. Research shows that Hispanic Americans are less likely than African Americans and European American to be aware of symptoms of hypertension and to have routine blood pressure screening. This group also is less likely to seek treatment for hypertension (Glover, Greenlund, Ayala, & Croft, 2005). A study by Ryan, Gee, and Laflamme (2006) found that a positive, significant relationship between discrimination and high systolic blood pressure among Latino immigrant participants.

Although a common disease, diabetes is one of the most disabling diseases in the US, with increasing risks for kidney failure, blindness, heart problems, limb amputations, stroke, and death. A study by Piette, Bibbins-Domingo, and Schillinger (2006) followed 810 individuals who had been diagnosed with diabetes and met all exclusion criteria, such as no diagnosis of blindness, hearing impairment, HIV, mental illness, or renal failure. The sample included European American (49%), African American (19%), and Hispanic (14%) participants, as well as a portion of Asian and self-identified "other" ethnic descent participants. They found that individuals who reported experiencing health care discrimination had statistically worse glycemic control and hemoglobin A1C levels than patients not reporting health care discrimination. The study also found that as perceptions of discrimination increased, individuals experienced more diabetes symptoms, especially if that discrimination was enacted by their health care providers. In addition, a study by Trivedi and Ayanian (2006) found that individuals who reported higher levels of perceived discrimination were less likely to engage in routine hemoglobin A1C testing, cholesterol testing, and diabetic eye exams than individuals who did not report perceptions of discrimination.

The National Center for Health Statistics (2007) reports that Hispanic males over the age of 13 constitute almost 20% of all new HIV diagnoses, which is disproportionate to the population prevalence of Hispanic Americans, which is 12.5%. Likewise, Hispanic females over the age of 13 account for 15.5% of all new diagnoses. Thrasher, Earp, Golin, and Zimmer (2008) conducted a study to evaluate how perceptions of discrimination impacted health for individuals with HIV. The sample, including Hispanic Americans (14%) and African Americans (28%), concluded that among minorities, increased perceptions of discrimination led to lower levels of treatment benefits and greater distrust of medical providers.

Research suggests that stress can often be the culprit of auto-immune diseases and can decrease overall health. Minorities are diagnosed with Lupus and other autoimmune diseases at higher rates than European Americans. Additionally, minorities are generally younger in age at disease onset and experience a more aggressive disease activity course (Friedman et al., 1999) than their non-minority counterparts. The same is true of Rheumatoid Arthritis diagnoses, with Hispanic Americans being more likely to have the disease and to suffer more severe disease symptoms than European Americans (Garcia-Gonzales et al., 2008).

Discrimination and health-related quality of life. It has been demonstrated that perceptions of discrimination influences specific health conditions; however it can also influence subjective health, or health-related quality of life. In 2008, Hausmann, Jeon, and Ibrahim conducted research to see how discrimination impacts health status for Hispanic Americans and African Americans, compared to European Americans. Researchers worked with 36,128 participants from these ethnic groups. Using a one-item scale of self-reported

health status, a one-item measure of perceived discrimination, and demographic variables, they were able to perform logistic regression analyses. The results indicated that both Hispanic Americans and African Americans experienced significantly more discrimination within the health care system than European Americans. For participants with higher levels of perceived discrimination, health status was significantly lower than those who did not perceive discrimination. Even when controlling for age, income, education, racial salience, access to health care, and availability of health insurance, higher perceived discrimination resulted in lower reports of self-rated health. Similar results have been found in subsequent studies (e.g., Penner et al., 2009).

How Does Discrimination Translate to Poor Physical Health?

The studies reviewed above document relationships between objective experiences of discrimination, perceptions of discrimination, and physical health. Because the link between both forms of discrimination and health is likely to operate directly and indirectly, researchers are examining the mechanisms that may explain the association. That is, how do experiences of discrimination translate to the health disparities summarized above? One proposed explanation is that the link between discrimination and health is directly impacted by stress. Williams, Neighbors, and Jackson (2003) noted that perceptions of discrimination could have long-term consequences for health based on repeated psychological and physiological arousal. That is, the deleterious effects of discrimination on physical health may occur as a result of chronic activation of the body's stress response. Williams and Mohammad (2009) stated that "stressors that are ambiguous, negative, unpredictable, and uncontrollable are particularly pathogenic" (pp. 32-33). Discrimination is often all of these things, which further increases the likelihood that perceptions of discrimination activate that

body's stress response. Several possible indirect mechanisms, or mediators of the link between discrimination and health, also have been hypothesized, including negative emotions and poor coping strategies.

The Reserve Capacity Model

The Reserve Capacity Model (RCM) represents a theoretical means of examining how socioeconomic status and stress (including discrimination) directly and indirectly affect physical health. The RCM makes several predictions. First, individuals of low socioeconomic status (SES) are hypothesized to experience increased stress compared to their high and middle SES counterparts, one such form of stress experienced by those low in SES is discrimination. Second, when stress levels (and discrimination) are combined with few internal or external emotional/support resources, low SES individuals are predicted to experience increased rates of negative emotions. Third, in turn, negative emotions place low SES individuals at greater risk for negative health outcomes. This model furthers our understanding of the bio-psycho-social pathways that exist in the development of chronic disease and illness (Gallo & Matthews, 2003). Research supporting each of the predictions made by the RCM is outlined below, as well as a review of studies that have explicitly tested the RCM.

Low SES and health. A variety of researchers have demonstrated a link between low SES and poor health outcomes, including increased morbidity and mortality (Adler, Marmot, McEwan, & Stewart, 1999; George, 2005; Lynch, Smith, Kaplan, Shema, 1997). These health disparities by SES are likely to occur for a number of reasons (Smith, 2004). First, individuals living in poverty are likely to have lower levels of education, which, in turn, can impact health through poor disease-management techniques. Additionally, lower

abilities to reason abstractly can lead to poor health literacy, lower compliance with medication regimens, and ultimately hinder one's ability to care for one's health (Goldman & Smith, 2002). Poverty also requires people to work longer hours, in more dangerous conditions, and until later in life (Smith, 2004). Low-income neighborhoods can also provide increased exposure to toxins and unsafe living conditions (Williams, 1999).

Research also has investigated SES disparities in health-related quality of life. Hemingway, Nicholson, Stafford, Roberts, and Marmot (1997) examined this relationship using the SF-36. Results indicated that as SES decreases, so do perceptions of health-related quality of life. A study by Bzostek, Goldman, and Pebley (2007) evaluated why Hispanic Americans experience lower reports of quality of life and self-reported health than other ethnic groups. This study sampled European American and Hispanic American participants. Results indicated that poverty was significantly related to reduced ratings of self-reported health, with Hispanic Americans suffering from particularly poor perceptions of health. When SES was held constant, the gap between subjective health and race reduced significantly, further indicating that poverty alone has a negative impact on health-related quality of life.

A recent article by Barger, Donoho, and Wayment (2009) evaluated relationships between SES, health, and life satisfaction. Researchers analyzed data from two national health surveys including 435,258 participants who provided sufficient data for analysis. Demographic information was collected, along with information about life satisfaction and health status. Life satisfaction was operationalized as self-rated health, social relationship markers, disability, and unemployment. Findings include that Hispanic Americans had lower levels of self-reported health and life satisfaction. When researchers controlled for the

effects of poverty, these disparities were almost eliminated for Hispanics, indicating that poverty has a strong influence on health-related quality of life.

Research also indicates a strong relationship between low SES and stress. Individuals and families living in poverty have less access to material resources and face additional barriers in survival, including inequality of wages and exploitation (Rose & Hatzenbuehler, 2009). Cohen, Kaplan, and Salonen (1999) analyzed data from 2,387 participants of the Harris Poll study. Along with demographic information, including SES variables of income and education, participants completed the Perceived Stress Scale (PSS-10) along with a 16-item questionnaire about major, stressful events in the participants' lives. Results of this study indicated a significant negative relationship between SES and stress. Individuals in the lowest SES category also reported higher levels of hostility, hopelessness, depression, and social support than their middle and high SES counterparts. Although researchers did not measure race in this study, they concluded that low SES was related to an increase in stress, which is likely a result of the mediating pathways of emotion and support resources.

Stress and health. Research has been long-standing in demonstrating a direct relationship between stress and poor physical health outcomes. When human beings perceive a stressful event, activation of the cardiovascular system occurs, increasing heart rate, blood pressure, hormone output, and blood circulation (Brotman, Golden, & Wittstien, 2007). Many studies have been published on the link between stress and depression, cardiac health, autoimmune diseases, and other health conditions (e.g., Cohen, Janicki-Deverts, & Miller, 2007). A review of the literature by Clark et al. (1999) found that stress could lead to lower t-cell counts for HIV positive patients, reduced white blood cell counts in cancer patients, and lower levels of natural cytotoxic lymphocytes and general B-lymphocytes, both

of which are the human body's natural response to fight viruses and bacterial infections. Other studies reported in this review found that constant exposure to stress leads to increased cardiovascular response and a reduction in the ability to cope with daily stress.

Many studies have begun to examine links between discrimination, a specific type of stressor, and physical health outcomes, including disability and chronic health problems (Finch, Hummer, Kolody, & Vega, 2001). Over the past few decades, researchers also have focused on the effects of discrimination on mental health, such as increased stress, hostility, anxiety, and other negative emotions. For example, shortly after the proposal of the RCM in 2003, a study by Bennett, Merritt, Edwards, and Sollers (2004) investigated several components of the model, most specifically the impact that either a racist or an ambiguous scenario had on emotions of 74 African American participants. As expected, scenarios that were blatantly discriminatory in nature evoked negative emotions in participants. However, those negative emotions subsided relatively quickly for participants. Authors suggest this could be because it was easier for participants to dismiss these acts as sheerly ignorant and bad behavior. The study also found that when participants perceived an ambiguous scenario to be discriminatory in nature, they had higher levels of negative emotions compared to when the scenario was perceived to be benign. Additionally, those individuals who experienced negative emotions in response to the ambiguous scenario had longer recovery periods compared to those exposed to blatantly discriminatory situations. Finally, individuals who self-reported having personally experienced discrimination were more likely to conclude that a situation was discriminatory, and to have higher levels of negative emotions related to the situation witnessed, than participants who did not report personal experiences of discrimination.

Research also has identified a link between stress and health-related quality of life. For example, Mier et al. (2007) evaluated quality of life for Mexican Americans living in Texas-Mexico border *colonias*. *Colonia* residents are defined by their low SES rates (families on average earn less than $850 per month and less than 70% of residents have completed a high school education). These communities face unemployment rates of 20 – 60%, lack access to medical services, and have sub-standard housing. Researchers collected cross-sectional data from 446 adults living in the *colonias,* using the SF-8, specific health information (BMI, questions about specific health conditions, and smoking/drinking habits), and a questionnaire that intended to capture their reactions to living in the *colonias.* This final questionnaire included 19 questions about crime, racism, unemployment, domestic violence, poverty, access to healthcare, water quality, and other socio-environmental questions. Results indicated that, in general, residents in this area reported lower health-related quality of life scores than the general US population. Low quality of life scores were significantly related to believing that one could not access healthcare, that reasonable housing was unavailable, and that the physical environment was unsafe.

Stress and reserve capacity. The RCM posits that individuals of low SES are faced with additional life stressors and threats (compared to their middle and high SES counterparts), such as reduced access to health care, social oppression, and discrimination. These individuals spend the majority of their mental and emotional resources responding to challenges brought about by the stressors to which they are exposed, leaving less intrapsychic energy to combat other life stressors, such as health problems. The term *reserve capacity* was borrowed from the aging literature, and is used to describe the bank of resources people utilize, which is generally smaller for those living in poverty. These resources are comprised

of tangible constructs, such as money which can be used in times of emergency; interpersonal constructs, such as a strong social support network; and intrapersonal constructs, such as high self-esteem and good conflict resolution skills. When people live in poverty their ability to contend with or manage stress can be compromised for two reasons. First, poverty exposes individuals to more stressful life situations, in terms of volume, which require them to use more of their existing reserves, depleting their bank of reserves. Second, the environment of those living in poverty is not conducive to allowing for the replenishment of tangible, interpersonal, or intrapersonal resources to be later used (Gallo & Matthews, 2003).

The previously mentioned study by Cohen et al. (1999) evaluated the link between stress and social support as well. In addition to the using the PSS-10 and a stressful life events questionnaire, participants responded to three questions reflecting perceived support from others. Their results indicated a negative relationship between perceived social support and stressful life events. Thus, individuals with high levels of social support reported fewer stressful life events and lower levels of perceived stress. In addition, Mattis, Fontenot, and Hatcher-Kay (2003) explored the relationship between racism (a form of stress), religiosity, social support, and optimism among African Americans. Using a sample of 149 individuals, researchers measured racism using the Daily Life Experience of Racism Scale. Additional variables including perceived friendship support, early religious involvement, church involvement, and church attendance were evaluated to reflect the construct of social support. The authors specifically hypothesized that religiosity would be correlated with social support and optimism. Analyses showed that the stress associated with perceiving racism was a significant, negative predictor of optimism. A negative relationship was also identified

between perceived racism and social support. These authors concluded that there was a significant relationship between stress (caused by racism) and optimism in their sample.

Reserve capacity and negative emotions. Researchers Taylor and Seemen (2006) reviewed various health conditions and how psychosocial resources, or variables the RCM refer to as reserve capacity, could impact health. Their review of the literature included findings that optimism and social support led to lower levels of depression and greater reports of health-related life-satisfaction. For example, Matthews, Raikkonen, Gallo and Kuller (2008) posited that individuals of low SES face limited psychosocial resources (i.e., optimism, self-esteem, and social support) in comparison to individuals of higher socioeconomic statuses. This leads to an increase in negative affect, decreases in positive affect, and increases in social strain. Researchers found a strong negative relationship, $\beta = -.71$, between social resources (i.e., reserve capacity variables) and negative emotions. Furthermore, negative emotions such as hostility and anger have been connected to cardiovascular diseases, increased blood pressure rates, and risk for cardiac events, for example. These emotions, along with pessimism, anxiety, and social isolation have each been shown to increase cardiovascular morbidity rates (Brotman et al., 2007).

A study of immigrant populations by Jasinskaja-Lahti, Liebkind, Jaakkola, and Reuter (2006) evaluated the link between social support and negative emotions. Data from a total of 2,360 individuals were utilized, including measures of depression, anxiety, psychosomatic stress, experience of discrimination, and social support networks. Results indicated that lower levels of social support were significantly associated with negative emotions, including depression, anxiety, and psychosomatic symptoms. Experiencing adequate levels of social support within their new country was particularly important in

reducing symptoms of anxiety. These relationships were also significant when including discrimination. For individuals experiencing high levels of discrimination within their new country, having high social support was negatively related to negative emotions. Although the populations studied by these researchers were immigrant groups in the Russia, Estonia, and the former Soviet Union, the results are generalizable to other immigrant populations, such as those in the US, noting that for Hispanic Americans, social support may be an important factor in reducing their negative emotions.

Negative emotions and health. The relationship between anxiety, depression, anger, hostility, aggression, and other emotions and morbidity and mortality has been extensively researched. For example, Type A personality and hostility have been linked to negative cardiac health since the 1950s. Individuals who have Type A personality characteristics are exposed to stressors and triggers that can, in turn, lead to negative cardiac events (Gallacher, Sweetnam, Yarnell, Elwood, & Stansfeld, 2003). More recent studies have begun to focus on the impact of Type D personality on cardiac health. Type D personality is characterized by increases in negative emotions, including anxiety, distress, irritability, and social inhibition. Males with Type D personalities in clinical studies demonstrate increased cardiac output, higher reports of subjective stress, and higher acute stress levels (Williams, O'Carroll, & O'Connor, 2009).

Research has demonstrated similar findings with other health conditions. A study by Pavek (2009) evaluated how emotions can impact blood pressure. Testing of 85 "healthy" participants indicated that verbal aggression was positively correlated with increased blood pressure rates. Shen, Countryman, Spiro, and Niaura (2008) followed 485 healthy men over the course of nine years to look at the impact of emotions on health. The results

demonstrated a positive association between hostility, anger, Type A personality, and fasting glucose levels. These relationships were particularly strong among older men who did not marry. Researchers concluded that these negative emotions represented independent risk factors for blood sugar control in participants. There are a number of studies which have noted that minorities with diabetes are more likely to suffer from depression (Wagner & Abbott, 2007), sadness, anger, and helplessness (Moody-Ayers, Stewart, Covinsky, & Inouye, 2005).

To determine if symptoms of anxiety had any impact on health-related quality of life, Revicki, Brandenburn, Matza, Hornbrook, and Feeny (2008) conducted evaluations with 297 participants who had been identified as having generalized anxiety disorder by a physician within the Kaiser Permanente Northwest Region. Participants completed two independent measures of anxiety and two measures of quality of life, including the SF-12; participants were also administered questionnaires on disability, healthcare utilization, and patient health. Results of this study indicated that symptoms of anxiety were negatively associated with health-related quality of life. More severe symptoms of anxiety resulted in significantly greater life dissatisfaction, lower quality of life scores, and lower levels of both physical and psychological well-being. Although researchers did not intend to measure depression, several of the measures used included measures of depressive symptoms. Analyses of these variables found that depressive symptoms also had significant, negative relationships with health-related quality of life. Increases in symptoms of depression resulted in a reduction in health-related quality of life scores and increases in disability. This study concludes that negative emotions have a measurable, negative impact on health-related of life.

The impact of depression on one's quality of life was demonstrated in a study by Strine et al. (2009). Researchers in this study utilized the Behavioral Risk Factor Surveillance System (BRFSS) to survey individuals in 41 states and US territories, including data from over 200,000 people. Depression was measured using the Patient Health Questionnaire (PHQ-8) depression scale. Health-related quality of life was measured using three questions about subjective health status, and an additional question about the individual's life satisfaction. Results of this study indicated that individuals who were labeled as depressed (based on scores of the PHQ-8) were 12.3 times more likely to report dissatisfaction with their lives. Participants with high depression scores were also more likely to have poor health-related quality of life, experience more frequent physical distress, feel as though they were in fair or poor health, and note that they suffered from activity limitations. Furthermore, a significant positive correlation was found between depression and the number of days an individual had where he/she was physically impaired or disabled, such that as depression levels increased, so did the number of impaired days.

Negative emotions among Hispanic Americans. The expression of feelings can vary by culture, particularly based on what is deemed culturally acceptable. Even in the United States, certain emotional states are more likely to be shared in social settings. Anxiety is a socially acceptable negative emotion within the Hispanic culture. As a collectivist culture, individuals are expected to sacrifice personal feelings to prevent causing distress to the larger group, e.g., the family (Valera, Vernberg, Sanchez-Sosa, Riveros, Mitchell, & Mashunkashey, 2004). Terms such as "nervios" (nerves) and "ataque de nervios" (attack of nerves) are commonly used in Mexican, Caribbean, and Latin American cultures to describe general negative emotional conditions, and symptoms of both state and

trait anxiety (Guarnaccia, DeLaCancela, & Carrillo, 1989). Within the Hispanic culture, anxiety is especially likely to be reflected in somatic symptoms. For example, *nervios* is a culturally permitted response to severe stress, which embodies feelings of restlessness and a lack of personal control (Guarnaccia & Rogler, 1999). A recent study by Ramos and Carlson (2004) measured negative emotions of Hispanic American women who were identified as victims of abuse. The results of this study reflect that mental health distress was most often manifested as anxiety. Researchers concluded that anxiety was the most culturally endorsed negative emotion and was deemed to be acceptable among the participants' peers and family members. Therefore, to examine the predictions of the RCM among Hispanic Americans, the most relevant form of negative emotions is likely to be anxiety.

Research testing the RCM. Although many studies have examined individual aspects of the RCM, very few to date have attempted to test its predictions holistically. A review of the literature has yielded two such studies. First, Matthews et al. (2008) examined the development of metabolic syndrome among Latinas. In this study, researchers analyzed all paths required to test the theoretical model. A total of 401 women who self-identified as Hispanic completed measures of negative emotions including tension, depression, and anger. The construct of Reserve Capacity was illustrated with a measure of optimism, social support, and self-esteem. In order to measure the construct of stress, women initially completed a questionnaire of positive, negative, or ambiguous stressful life events. Participants were then asked to identify up to three important events in their life, ranking each as very stressful, moderately stressful, or not at all stressful. An additional questionnaire measure was used wherein participants identified five ongoing problems or

stressors that had lasted longer than 6 months. These details allowed researchers to further categorize participants by their chronic, self-reported, stressors.

Finally, the health outcome of metabolic syndrome was measured biologically, using blood tests to screen for cholesterol, glucose, triglycerides; as well as blood pressure and waist circumference. Results showed a direct relationship between SES and the development of metabolic syndrome. Researchers also demonstrated a direct, negative relationship between Reserve Capacity and negative emotions (i.e., tension, depression, and anger). In turn, negative emotions were significantly associated with the development of metabolic syndrome. However, stress was not significantly related to Reserve Capacity, and was eliminated from the final model. Thus, results suggest that low SES operates through Reserve Capacity and negative emotions, culminating in the development of metabolic syndrome. All steps in the path model tested were significant at the $p < .01$ level or lower.

A second study was undertaken by Brondolo et al. (2008), measuring discrimination in addition to socioeconomic status. Researchers recruited 362 minority adults (218 African Americans and 144 Hispanic Americans) and asked them to complete two assessments, the Cook Medley Hostility Scale and the Positive and Negative Affect Schedule, to evaluate state and trait emotions. Participants were also administered the Perceived Ethnic Discrimination Questionnaire – Community Version (PEDQ-CV, Brondolo, Kelly, Coakley, Gordon, Thompson, Levy, et al., 2005) to measure lifetime racial discrimination. State and trait emotions were also measured qualitatively via electronic diary pages. Results of this study indicated that perceptions of discrimination and negative trait affect were significantly positively correlated. Discrimination was also significantly positively correlated with daily anger and daily nervousness. Thus, researchers demonstrated a positive relationship between

perceptions of discrimination and negative emotions. Although few studies to date have tested the RCM in a holistic manner, authors of this article posit that discrimination and negative emotions can increase stress and tax coping strategies, creating a pathway to negative physical health outcomes (Brondolo et al., 2008).

Goals of the Study

The present study was the first to test a portion of the RCM with a sample of both male and female participants, of only Hispanic ethnicity. Unlike other studies testing this theoretical model, I did not specifically test the relationship between low socioeconomic status and health. Rather, I examined the association between perceived discrimination, a stressor, and health-related quality of life. I chose to forego measuring SES because of an anticipated floor effect, where the majority of participants were expected to be in a low-income bracket. However, a unique component of this study was the measurement of discrimination as a stressor. Literature reflects that most minority groups, including Hispanic Americans, report experiencing discrimination; however reports of discrimination are lower among Hispanic Americans than other minority groups. Although minorities undoubtedly endure stereotyping and mistreatment, Hispanic Americans have been more easily incorporated into European American society and even labeled as "White" (Dixon & Rosenbaum, 2004).

Linking discrimination to subjective health, or health-related quality of life, among Hispanic Americans can help researchers gain insight and understanding as to why minorities often experience higher incidences of chronic illness, and have more severe symptoms associated with physical health problems. Research within this area can also help highlight

prevention and intervention strategies, which may in turn reduce the disparities in health between the European American majority population and Hispanic American minorities.

Hypotheses. In this project, I tested a portion of the Reserve Capacity Model (RCM) among Hispanic Americans (see Figure 1). Based on previous research on the RCM (Gallo & Matthews, 2003), I predicted the following relationships (see Figure 2):

1. There will be a direct and negative relationship between perceptions of discrimination and physical health-related quality of life, such that as perceptions of discrimination increase, physical health-related quality of life will decrease.
2. There will be a direct and negative relationship between perceptions of discrimination and mental health-related quality of life, such that as perceptions of discrimination increase, mental health-related quality of life will decrease.
3. In addition to the direct relationship predicted in hypothesis #1, the relationship between perceptions of discrimination and physical health-related quality of life will be mediated by the variables of reserve capacity (e.g., optimism and social support) and negative emotions (e.g., symptoms of trait anxiety).
    a. Perceptions of discrimination will be negatively related to optimism and social support.
    b. Optimism and social support, in turn, will be negatively related to symptoms of trait anxiety.
    c. Symptoms of trait anxiety, in turn, will be negatively associated with physical health-related quality of life.
4. In addition to the direct relationship predicted in hypothesis #2, the relationship between perceptions of discrimination and mental health-related quality of life

will be mediated by the variables of reserve capacity (i.e., optimism and social support) and negative emotions (i.e., symptoms of anxiety).

d. Perceptions of discrimination will be negatively related to optimism and social support.

e. Optimism and social support, in turn, will be negatively related to symptoms of anxiety.

f. Symptoms of anxiety, in turn, will be negatively associated with mental health-related quality of life.

I used Path Analysis, a form of Structural Equation Modeling (SEM), to test the model presented in Figure 2. Path analysis is a statistical method that allows researchers to see causal relationships between variables. In a sense, it is similar to regression analyses, but is capable of including more than two variables, and allows analysis of both indirect and direct effects (Tabachnick & Fidell, 2007).

CHAPTER 3

METHOD

Participants

Data were collected from 236 participants. As shown in Table 1, the sample was predominantly female, 68.9% (n = 162). Ages ranged from 18 to 69 years, with an average age of 36.49 (SD = 10.05). Participants were given the opportunity to self-identify into subcategories of ethnicity, the majority of which (57.2%; n = 135) chose Hispanic. Others self-identified as Mexican (35.6%), Cuban (2.5%), Central American (2.1%), Latin American (1.3%), and Biracial (1.3%). Over 90% of participants completed the study's questionnaire in Spanish (n = 213). Similarly, 80.4% (n = 189) of participants reported Spanish to be their preferred language. The remainder of the group was most comfortable speaking English (10.2%), with an additional 9.4% noting they were equally comfortable speaking both English and Spanish. More than two-thirds of all participants were married (51.7%) or in a serious relationship (16.5%). Of those not involved in a relationship, 16.9% identified themselves as single, 6.4 % as divorced, 5.9% as separated, and 2.5% as widowed. More than 40% of the sample reported having completed less than a ninth grade education. Another 27.1% had completed some high school, and 18.3% had earned a high school diploma or GED. Just over one-half of participants were employed (50.9%). Participants were asked to estimate their annual income in increments of $10,000. Those earning $0 - $9,999 per year comprised the largest portion of the sample, 42.8%. Another 36.1% of participants reported earning between $10,000 - $20,000 per year. Only 15% of participants reported having health insurance; however, 31.2% reported having a doctor who they visited when sick, regardless of insurance status. About one-third of participants reported that they

never or rarely attend worship services (29.1%). Thirty-one point three percent of participants indicated that they attended church once per week.

Procedure

Participants were recruited from three branches of the Salvation Army, in the Kansas City area from June through October of 2010. Eligibility criteria for participation in the study included that individuals must be of Hispanic descent, including Mexican, Puerto Rican, Spanish, Latin American, Central American, Caribbean, Cuban, or bi-racial. Participants also were required to be at least 18 years of age. Selection of Salvation Army branches was based on area demographics, specifically ones with high concentrations of Hispanic families. The Westport Salvation Army is located in central Kansas City, Missouri and provides services to individuals in zip codes adjacent to the location, including 64109, 64110, 64111, 64112, 64113, 64114, 64131, and 64132. The Harbor Light Salvation Army is located in Kansas City, Kansas and provides services to any family living in Wyandotte county. The Blue Valley Salvation Army is located in east Kansas City, Missouri and provides services to individuals living in zip codes including 64125, 64126, 64129, 64130, 64133, and 64138.

Participants were recruited during different times of the day for each Salvation Army location. At the Westport Salvation Army, individuals were invited to complete the study's questionnaire after attending bilingual church services. Participants from the Harbor Light and Blue Valley locations were recruited while waiting to receive social services, such as rent assistance, eyeglass assistance, food pantry services, or requests of Christmas gifts for children. The majority of participants were recruited from the Harbor Light Salvation Army, 54.2% (n = 128); 29.2% (n = 69) from the Westport Salvation Army, and 16.5% (n = 39)

from the Blue Valley Salvation Army. Participants were most often recruited while waiting to receive social services (61.9%; n = 146), or after attending a worship service (26.3%; n = 62).

Potential participants were given a brief description of the study, and asked if they would be interested in participating in it. Individuals who gave initial consent were provided a study packet in English or Spanish based on their preferred language, along with a clipboard and writing utensil. The first page of the packet contained a letter of informed consent as shown in Appendices A and B, which provided a brief overview of the study, rules of confidentiality, and how the data would be used. Participants were informed in the letter that they had no obligation to participate in the study, and that they were free to cease completing the questionnaire at any time. This letter of informed consent was included in lieu of an informed consent document requiring the participant's signature, because it was anticipated that having to sign an informed consent document could hinder individuals from participating in the project. Participants were encouraged to keep the letter of informed consent after completing the questionnaire. Within the packet, the letter of informed consent was followed by the study's questionnaire.

To ensure privacy, completed questionnaires were returned in a manila envelope, which was placed into a box and not reviewed until the end of each research day. Participants were given a $5.00 gift card to Quik Trip, a local gasoline and convenience store chain, upon returning the sealed envelope. Any participant who had questions while completing the questionnaire, or after completing the questionnaire, were able to speak with me in either English or Spanish. There also was a list of resources available for individuals seeking additional services upon completion of the questionnaire; however, no requests were

made (see Appendix C). These procedures were approved by the UMKC Institutional Review Board (Appendix D).

Measures

As part of this study, participants completed a questionnaire in either English or Spanish as shown in Appendices E and F, which consisted of five well-validated measures (available in both English and Spanish) previously used in studies examining stress, discrimination, and health.

Perceptions of discrimination. The Perceived Ethnic Discrimination Questionnaire – Community Version (PEDQ-CV) measures the perception of race-related, negative social interactions, without simultaneously measuring affect, coping, or emotions. Additionally, this measure assesses sub-dimensions of perceptions of discrimination, such as stigmatization, social rejection, harassment in the workplace, and threats of aggression (Brondolo et al., 2005). This 17-item measure can be completed in approximately 5 – 8 minutes and had a high level of internal consistency within my sample, $\alpha = .92$, for measuring lifetime discrimination. The scale instructs participants to think about their specific race, then note it at the top of the page. The subsequent questions each begin by asking "Because of your race or ethnicity, how often has…" an event occurred, such as "…how often has your boss or supervisor been unfair to you?" Responses are made on a 5-point Likert scale, with a response of 1 = *Never* and 5 = *Very Often*. Scores on this scale can range from 17 to 85, with higher scores indicating a higher level of perceived discrimination. The PEDQ – CV has been previously administered to an ethnically diverse community sample, including African Americans, Hispanics/Latinos, and Native Americans, and is available in both English and Spanish. The Spanish version was translated and back-

translated using American Translators Association accredited translators and reviewed by speakers of Puerto Rican, Dominican, and Colombian Spanish (Brondolo, E., personal communication, August 28, 2009).

Optimism. The construct of optimism is one attribute researchers have measured to create Reserve Capacity variables in previous research (Matthews et al., 2008). The Life Orientation Test (LOT – R) is a scale designed to measure optimism via a 10-item questionnaire, where individuals are asked to rate their feelings on a 5-point Likert scale ranging from 0 (*I disagree a lot*) to 4 (*I agree a lot*). Individuals respond to questions, such as, "I'm always optimistic about my future." Three questions are reverse-scored to protect against social desirability and acquiescence biases (Scheier, Carver, & Bridges, 1994). Additionally, there are three filler items in the scale to prevent response bias. Scores on this scale can range from 0 – 24 with higher scores indicating higher levels of optimism. Based on translations of the measure in the public domain, I selected a version of the LOT-R that excluded one of the filler items, leaving a total of nine items in the measure. Both the English and Spanish versions of the measure can be completed in 2 – 3 minutes; however no literature was found demonstrating the internal consistency of the translated measure. Preliminary analyses revealed inadequate levels of internal consistency for my sample (α = .14). Additional review of the literature found studies with the same difficulty, particularly with translated versions of the LOT-R, or versions administered to Hispanic participants (Herzberg & Brahler, 2006; Hirsch, Britton, Conner, 2010). Other studies suggest calculating Cronbach's alpha using positively worded items (optimism) separately from negatively worded items (pessimism) from the scale (Extremera, Durán, & Rey, 2007; Ferrando, Chico, & Tous, 2002; Herzberg, Glasemer, & Hoyer, 2006). Following this

suggestion improved my internal consistency to an acceptable level for optimism (α = .70). The three items reflecting pessimism improved, but internal consistency was still low (α = .45).

Social support. Social support is another attribute utilized to reflect the construct of Reserve Capacity (Matthews et al., 2008). The Lubben Social Network Scale (LSNS-6) is a 6-item measure which asks individuals about their perceived level of social support from friends and family members. Individuals are asked to select an answer on a 6-point Likert scale, from 0 (*None*) to 5 (*nine or more*) to questions such as, "How many relatives do you feel close to such that you could call on them for help?" Scores on this scale can range from 0 to 30, with higher scores indicating higher levels of social support. This measure was designed to be used with older adults, but has been shown to be useful with individuals as young as 18 years of age (Danao, Padilla, & Johnson 2001). Within my sample, results showed high levels of internal consistency, α = .87. The measure takes approximately 3 minutes to complete.

Symptoms of trait anxiety. Negative emotions can be manifested in a number of ways, including anxiety. The State Trait Anxiety Inventory – version Y (STAI-Y) was developed in 1983, and was modeled after previous versions. It is the most commonly administered measure of anxiety, with demonstrated cross-cultural validity and translations available in 58 languages (Groth-Marnat, 2003). For example, researchers Virella, Arbona, and Novy (1994) used the STAI-Y, Spanish version, and found a strong level of internal consistency within their sample (α = .86) The STAI-Y requires only a sixth grade reading level and can be administered in less than 10 minutes. Questions are provided on a single page, with answer options on a 4-point Likert scale, with a response of 0 = *Not at All* and 3

meaning *Very Much So*. Questions are brief, including items such as "I feel calm" and "I am a steady person." Scores on this scale can range from 0 - 60, with higher scores indicating a greater number of symptoms of trait anxiety. For the present study, participants completed the STAI-Y, using the 20 questions to measure symptoms of trait anxiety; results showed a high level of internal consistency in my sample ($\alpha = .87$).

Health-related quality of life. To measure health-related quality of life, research participants completed the SF-8 (Ware, Kosinski, & Dewey, 2000). This measure includes eight questions with five or six response options, depending on the question. Questions focus on health status over the past four weeks, for example, "During the past 4 weeks, how much difficulty did you have doing your daily work, both at home and away from home, because of your physical health?" There are five response options for this question: *None at All*, *A Little Bit*, *Some*, *Quite a Lot*, and *Could Not Do Daily Work*. Based on population testing of the measure, the SF-8 utilizes norm-based scoring, where test-writers have created normed scores for each item which have a mean of 50. Norm-based scoring allows researchers to compare sample groups to the normed reference groups generated by the test authors. Scores above 50 indicate higher levels of physical or mental health-related quality of life, and lower numbers correspond to poorer ratings of physical or mental health-related quality of life. There are several steps involved in scoring the SF-8. First, I completed initial data screening. Second, I recoded each item into the response category assigned by the test writers. Next, I used a series of regression coefficients and constants, provided by test authors, to calculate a final score for each item (Ware, Snow, Kosinski, & Gandek, 1996). Internal consistency for the SF-8 was good in my study, $\alpha = .86$. The SF-8 is adapted from the SF-36, using the same metric and scoring procedures. Individuals with low raw scores on the SF-8 are considered

to be in better physical or mental health; in other words, higher scores on this scale reflect diminished health-related quality of life. The measure can be divided into two sub-scales, a Physical Health Composite (PHC) score and a Mental Health Composite (MHC) score, providing two outcome variables of subjective well-being (Ware, Kosinski, & Dewey, 2000).

CHAPTER 4

RESULTS

Power Analysis

Prior to participant recruitment, I identified possible control variables from the literature, which I used to calculate the necessary sample size to yield adequate power for the study. Four predictor variables were identified to test the model and are presented in Figure 3; these include perceptions of discrimination, optimism, social support, and symptoms of trait anxiety. Seven potential control variables were identified, including age, gender, marital status, annual household income, preferred language, religious involvement, and if the individual visits a doctor when sick. All variables except for religious involvement were chosen as control variables based on their relations with physical health in prior research (e.g., Ware et al., 1996). The control variable of religious involvement was noted to be of importance due to the potential Reserve Capacity-like support gained by attending religious services, which are provided at Salvation Army locations where recruitment for this study took place. For example, Fiala, Bjorck, and Gorsuch (2002) found that religion itself provides individuals with a sense of support to deal with stressful life events. Calculating sample size power a priori is difficult for path analyses and SEM models (Kline, 2005). Green (1991) provides a "rule of thumb" equation for estimating power in regression analyses, $N \geq 50 + 8m$, where m is the number of independent variables. With a path analysis, m would be the total number of both predictor and control variables. When considering these 11 variables, power analysis revealed that 138 participants were needed to achieve sufficient power. Given that data were collected from 236 participants, the study

should have adequate power to detect any significant relations within the hypothesized path model.

Data Analysis

Data analysis was conducted using SPSS, version 18.0. First, descriptive statistics were calculated on all variables in the study. This initial step of data analysis served several purposes: it allowed me to identify any data entry errors, to check for, and remedy, any potential skewness and kurtosis, and to address any outliers in the data set. Second, inferential statistics (e.g., *t*-tests, ANOVAs, and correlations) were run to check for potential covariates for inclusion in the study's path models. Third, path models to test the study's hypotheses were estimated.

Descriptive statistics. Upon analyzing descriptive statistics for each variable, I found that three variables required transformation. The PHC was negatively skewed, with a skewness of -0.701 (*SE* = 0.164). In order to improve normality, I used a cubed transformation. The results of this transformation improved skewness to -0.126 (*SE* = 0.164), which falls within an acceptable level of normality (Field, 2005). The MHC was also negatively skewed, with an initial skewness of -0.884 (*SE* = 0.164). In order to improve normality, I used a cubed transformation, which improved skewness to -0.034 (*SE* = 0.164), which falls within an acceptable level of normality (Field, 2005). The PEDQ was the third non-normally distributed variable in my study. Prior to transformation, the variable was positively skewed, with a skewness of 1.242 (*SE* = 0.167). In order to correct for this, I utilized a logarithmic transformation, which yielded an appropriate level of skewness, 0.501 (*SE* = 0.167).

The next step in data analysis was to calculate the initial descriptive statistics and correlations between measures. Full results of this analysis can be seen in the Table 2.

Control variables. I tested for significant relationships between the potential control variables and the PHC, followed by the MHC. First, correlations were calculated for the continuous covariates of age, education, income, and religiosity. Table 3 shows correlations between each covariate and the physical and mental health composite scores. None of these correlations was significant, so no continuous control variables were used in the path models.

Next, the categorical covariates were analyzed. For comparison purposes, marital status was collapsed into two categories, "partnered," and "not partnered." The partnered category included participants who reported being married or in a serious relationship. The not partnered category included participants who self-identified as single, separated, widowed, or divorced. Similarly, the employment status variable was collapsed into two categories, "employed," and " not employed." The employed category included participants who worked full-time, one part-time job, or multiple part-time jobs. The not employed category included participants who reported being retired, unemployed but looking for work, unemployed and not looking for work, or a student.

Potential covariates with two responses categories (i.e., partner status, employment, survey language, preferred language, having a doctor, and having health insurance) were analyzed using independent sample *t*-tests. Potential covariates with three response categories (i.e., how the survey was administered and the location of survey) were analyzed using one-way ANOVAs. Based on the number of comparisons planned, I utilized a Bonferroni correction to prevent a Type I error. After following the formula of α/n, where n = number of tests conducted, the acceptable significance value would be $p = .005$ (Field,

2005). Table 4 shows mean comparisons for the PHC and Table 5 shows mean comparisons for the MHC. There were no significant differences found in MHC. However, Table 5 shows that there was a significant difference in MHC by participants' preferred language. Participants who preferred to speak in Spanish reported significantly poorer mental health-related quality of life than participants who preferred to speak in English. Therefore, Preferred Language was used as a control variable in all path models estimated with MHC as the outcome.

It is noteworthy that two *t*-test results violated Levene's test of homogeneity of variance: language preferences by PHC, and partner status by MHC. Although *t*-tests are robust to violations of heterogeneity, Field (2005) suggests conducting Mann-Whitney U analyses, as the non-parametric equivalent of a *t*-test. Using this procedure, there was no difference in PHC between English and Spanish speakers, $U = 1799.00$, $p = 0.386$. Also, results showed no difference in MHC between partnered and non-partnered participants, $p = 0.732$. These results support the *t*-test findings reported in Tables 4 and 5.

Missing data. Within the sample, 62 individuals skipped at least one item on the questionnaire. In order to explore possible differences between participants who fully completed questionnaires and those who skipped questions, I divided my data set into two groups, those who fully completed the questionnaire ($n = 174$), and those with missing data. I compared these groups on demographic variables, as well as on constructs used in my path models. For categorical variables, I compared groups via chi-squares, and for continuous variables, I utilized independent samples *t*-tests. Based on the number of comparisons planned, a Bonferroni correction was necessary to prevent Type I errors. Following the formula cited above, I determined the acceptable significance value to be $p = .005$. No

significant differences were found; full details for these analyses can be seen in Tables 6 and 7. Based on these findings, I decided to use the entire data set for the path analyses.

Model Building

Step one. Initial analyses revealed significant bivariate relationships between the PEDQ and PHC (r = -.18, p < .05) as well as between the PEDQ and MHC (r = -.36, p < .001). Following the theoretical foundation of the RCM (Matthews et al., 2008), the next step was to construct a path model, with optimism, social support, and symptoms of trait anxiety as mediators of the relationship between the PEDQ and PHC, and between the PEDQ and MHC (see Figure 2). Preferred Language was used as a control variable for MHC; as a second exogenous variable, Preferred Language was allowed to covary with the PEDQ. These analyses were conducted using AMOS 17.0.

I evaluated model fit by reviewing Goodness of Fit statistics, including χ^2, χ^2/degrees of freedom (df) ratio, the Comparative Fit Index (CFI), and Root Mean Square Error of Approximation (RMSEA). The χ^2 test compares the analyzed model with the hypothesized model. A significant value for this test indicates that the analyzed model is no different from the null hypothesis. Since we want the analyzed model to reflect the data we collected or observed, we hope for these two numbers to be different. Thus, non-significant χ^2 tests indicate that the data fit the model well (Byrne, 2010). The χ^2/df ratio utilizes the same information, and also considers the degrees of freedom, making the outcome less dependent on the sample size. A ratio ranging from 2.00 to 3.00 is considered acceptable fit (Wheaton, 1987). The CFI compares the hypothesized model to the tested model, taking into account covariance and sample size. Estimates of greater than .95 indicate excellent model fit, with values greater than .90 indicating acceptable fit. The final goodness of fit index used,

RMSEA, evaluates how the tested model compares to a model with optimal parameter values, and knowing the population covariance matrix. Essentially, this statistic takes into consideration sample size, covariance, and the potential for model over-specification. Values less than .05 are considered good, values from .05 - .08 are considered acceptable, and values greater than .10 reflect poor model fit (Byrne, 2010). In addition to these four statistics, I also considered Hoelter's Critical N, which provides an estimate of the sample size necessary to produce an acceptable model fit. This value is provided considering a power with $\alpha = .05$, or $\alpha = .01$ (Bollen & Liang, 1998).

The first model estimated did not fit the data very well: $\chi^2(11) = 51.30$, $p < .001$; χ^2 /df = 4.66; CFI = .80; RMSEA = .13. There was sufficient sample size, Hoelter's = 91, $\alpha = .05$. The relationships between variables demonstrated some significance, as I predicted. The PEDQ was significantly and negatively related to the LOTR ($\beta = -.14$, $p < .05$); however, the relationship between the PEDQ and the LSNS was not significant ($\beta = -.09$, n.s.). The LOTR and the LSNS were both significantly and negatively related to the STAI, $\beta = -.37$, $p < .001$, and $\beta = -.23$, $p < .001$, respectively. The relationship between the STAI and the PHC was significant and negative ($\beta = -.36$, $p < .001$). The same was true for the relationship between the STAI and the MHC ($\beta = -.51$, $p < .001$). The direct path between the PEDQ and the PHC was no longer significant, $\beta = -.05$, n.s., compared to the previous bivariate relationship, $r = -.18$, $p < .05$. This indicates that the relation between perceptions of discrimination and physical health-related quality of life was partially mediated by reserve capacity and negative emotions. The direct path between perceptions of discrimination and mental health-related quality of life was still significant, $\beta = -.21$, $p < .001$, compared to the original relationship of $r = -.36$, $p < .001$. Although we do not have full mediation with

reserve capacity and negative emotion, the addition of these variables as mediators decreases the relationship between the original variables. Full details on this model can be seen in Figure 3

Step two. I sought to improve the initial model by evaluating the modification indices provided by AMOS. This information indicates what parameters can be added, deleted, or modified in order to improve model fit. Unfortunately, modification indices cannot be generated when the existing database has any missing values. I created a second data set where any participants with missing data were removed. I used this data set to estimate the model described in step one. The modification indices suggested that I allow a covariance between the PEDQ and the error term associated with the STAI.

After making this adjustment, I re-estimated the model with the full data set. Results indicated an improved model fit: $\chi^2(10) = 26.82$, $p < .01$; χ^2 /df = 2.68; CFI = .92; RMSEA = .08). There was sufficient sample size, Hoelter's = 161, $\alpha = .05$. The path coefficients were similar to the first model, as shown in Figure 4. The model showed partial mediation of the PEDQ and the PHC, with a direct relationship of $\beta = -.03$, n.s. The relationship between the PEDQ and MHC was also partially mediated in the model, with a direct path of $\beta = -.19$, $p < .01$.

Step three. In a final effort to improve the overall model fit, I deleted Preferred Language from the model. Although this relationship was significant in preliminary steps to test for control variables, it was not significantly associated with MHC in any of the path models estimated. This final path model showed that it fit the data well: $\chi^2(6) = 16.26$, $p < .05$; χ^2 /df = 2.70; CFI = .95; RMSEA = .08. There was sufficient sample size for this model, Hoelter's = 183, $\alpha = .05$. The direct path between perceptions of discrimination and PHC

was non-significant (β = -.03, n.s.), suggesting partial mediation by reserve capacity and negative emotions. The direct path between perceptions of discrimination and MHC remained significant (β = -.19, $p < .01$), but was reduced with the incorporation of reserve capacity and negative emotions as mediators. Full details of this model are shown in Figure 5.

CHAPTER 5

DISCUSSION

The primary objective of this research was to evaluate the RCM, using perceptions of discrimination as a stressor, testing direct and indirect pathways to physical health-related quality of life and mental health-related quality of life. My first two hypotheses predicted that there would be a direct, negative relationship between perceptions of discrimination and health-related quality of life (physical and mental). My results supported this hypothesis, finding that as perceptions of discrimination increased, physical and mental health-related quality of life scores decreased. My findings are consistent with existing literature demonstrating negative relationships between discrimination and poor physical and mental health outcomes. For example, two separate research studies (Din-Dzietham , Nembhard, Collins, & Davis, 2004; Steffen, McNeilly, Anderson, & Sherwood, 2003) found discrimination to be a predictor of hypertension for African Americans. Perceptions of discrimination have also been negatively related to blood sugar control for individuals with diabetes (Trivedi & Ayanian, 2006) and medication adherence for individuals who are HIV positive (Thrasher et al., 2008). My findings also add to the literature supporting the negative relationship between perceptions of discrimination and health-related quality of life (Hausmann, Jeon, & Ibrahim, 2008).

Stress is implicated as a major culprit in the development of multiple chronic illnesses (e.g., hypertension, digestive problems, autoimmune disorders). In addition to the development of these conditions, the experience of discrimination has been linked to rapid decline in functioning and an increase in disease progression (Williams & Mohamad, 2009). Mier et al. (2007) also found stress to be negatively related to quality of life among Mexican

Americans. My results suggest that the RCM is one way of linking stress to poor health outcomes (e.g., Matthews et al., 2008), and they support the idea that perceptions of discrimination can serve as a stressor which leads to poor health. This is the first RCM study of which I am aware to use perceptions of discrimination as a variable representing "stress." A meta-analysis by Williams, Neighbors, and Jackson (2003) identified 20 studies citing a positive association between psychological distress and perceptions of discrimination among Hispanic and African Americans. This same report identified 12 studies relating negative physical health outcomes to perceptions of discrimination. These researchers called for additional studies to help clarify the link between perceptions of discrimination and poor physical and mental health outcomes. My results support the findings of the meta-analysis with regard to perceptions of discrimination being conceptualized as a stressor, and extend the work by finding a negative relationship between perceptions of discrimination and health-related quality of life.

My study attempted to add to the existing literature by examining two psychosocial mediators of the relationship between perceptions of discrimination and health-related quality of life: reserve capacity and negative emotions. My third and fourth hypotheses predicted that reserve capacity variables (i.e., social support and optimism) and negative emotions (i.e., symptoms of trait anxiety) would account for part of the relationship between perceptions of discrimination and both physical and mental health-related quality of life (Gallo & Matthews, 2003). My results showed that perceptions of discrimination were negatively related to optimism. This finding is consistent with research by Mattis et al. (2003), showing that stress, operationalized as perceptions of racism, was negatively related to social support and optimism. These same variables have also been found to be negatively related to health-

related quality of life ratings (Taylor & Seemen, 2006). In my study, perceptions of discrimination also were negatively related to social support; however, this relationship was not statistically significant. In turn, both optimism and social support were negatively related to symptoms of trait anxiety, such that as levels of optimism or social support increased, levels of symptoms of trait anxiety decreased. Finally, symptoms of trait anxiety were negatively related to physical and mental health-related quality of life. Therefore, my results partially support the RCM: dispositional optimism and symptoms of trait anxiety seem to act as partial mediators of the relationship between perceptions of discrimination and health-related quality of life.

Other researchers have tested the RCM with similar findings. For example, Matthews et al. (2008) found a significant negative relationship from reserve capacity (comprising optimism, social support, and self-esteem) to negative emotions, which, in turn, were negatively related to the development of metabolic syndrome within a sample of healthy women. My results indicate the same relationships, with perceptions of discrimination serving as an alternative source of stress, and health-related quality of life as an outcome. A study by Brondolo et al. (2008) found positive relationships between perceptions of discrimination, daily anger, and nervousness. Again, my study supports these existing findings. Thus, multiple studies support the idea that stress, either conceptualized as daily hassles, major life events, or as perceptions of discrimination, serve to deplete the resources on which people can draw during times of need (e.g., Ong, Fuller-Rowell, & Burrow, 2009; Troxel, Matthews, Bromberger, & Sutton-Tyrrell, 2003). In turn, having fewer reserves from which to draw seems to leave people at risk for the experience of negative emotions.

Many studies support the link between discrimination and negative emotions (e.g., Brondolo et al., 2008). My results add to this literature, particularly in measuring negative emotions with a sample of Hispanic Americans. Previous research by Guarnaccia and Rogler (1999) found anxiety, culturally reflected as *nervios*, to be an appropriate response to stress among Hispanics. Other research has found anxiety to be commonly discernable among Latinas who endorsed mental health distress (Ramos & Carlson, 2004). In my sample, perceptions of discrimination seem to negatively affect optimism, which, in turn, negatively affects the manifestation of symptoms of trait anxiety. Numerous studies have found a link between symptoms of anxiety and poor physical health outcomes. For example, anxiety has been shown to be negatively related to health-related quality of life (Revicki, et al.,2008; van Straten, Cuijpers, van Zuuren, Smits, & Donker, 2007) and systolic blood pressure (Peters, 2004). My study supports these findings, and provides additional insight by identifying perceptions of discrimination as a potentially related variable in these relationships.

Implications

Social debate and research continue to support the importance of reducing poverty in order to improve health outcomes (Grantmakers in Health, 2009). The same is true for the need to reduce discrimination in society, as it exists from the highest levels of institutions, to the lesser forms of individual discrimination (van Ryn & Fu, 2003). These are important and necessary goals; however, the likelihood of eliminating poverty and discrimination is unknown. There are many barriers, both political and social, that may prevent these goals from ever being completely accomplished. My study suggests that we do not have to eliminate these major issues to make a difference in health outcomes. We can potentially reduce poor health outcomes by targeting negative emotions and reserve capacity-like

variables. Using this information, we could design interventions that would target negative emotions such as depression, anxiety, or hostility, which could reduce health-related disparities among minorities.

In evaluating the construct of reserve capacity, we see that self-esteem, optimism, and hope positively contribute to intrapersonal reserves. Similarly, social support and access to community resources represent methods of increasing interpersonal support. It is possible that interventions could target these variables, creating sources of social support for individuals at risk for chronic health conditions. Communities can create these conditions, thereby increasing an individual's reserves to deal with stressors, like discrimination, and ultimately preventing poor mental and physical health-related quality of life.

Limitations

As with any research endeavor, a number of potential limitations are noteworthy. Limited language proficiency and limited literacy in English or Spanish may be a concern for this sample. Groups were compared using chi-square analyses and *t*-tests, which indicated no significant differences within the sample between individuals with full data compared to those with missing data. Despite the lack of statistically significant differences, it is possible that differences in dialect among limited English participants, general language difficulties, limited literacy, and lack of familiarity with vocabulary in the survey could be the cause of some of the missing data.

All measures were completed using paper and pencil formats, which introduced the potential for shared method variance. In the same manner, acquiescence bias can develop from individuals who tend to give the same responses to questions without thoroughly reading the question. Also, social desirability may have threatened the integrity of responses

related to perceptions of discrimination. Additionally, health outcomes were self-reported within this study, and negative affect can influence how people view their health status. While these measures had existing literature to support strong levels of internal consistency, and my study also showed high levels of internal consistency, it is impossible to completely eliminate this potential threat. Another concern is that individuals could have been aware that my goal was to measure the impact of discrimination, simply by reading the PEDQ, creating a demand characteristic.

Another noteworthy limitation of this study includes scale/measurement difficulties inherent in a limited-English sample. The construct of social support has been considered a positive influence on physical and mental health (Brondolo et al., 2009). It has further been shown to protect individuals from the effects of racism (Finch & Vega, 20003). It is possible that how I operationalized social support in my study (using the LSNS) was not sufficient to reflect the construct of social support within my sample. Hovey and Magaña (2002) conducted research with Hispanic migrant farm workers and found that the number of people within a social network did not equate to increased feelings of social support for this population. Rather, it was the emotional support provided by the social network that created a sense of social support. Participants in my study were recruited from churches or social services offices, which imply some degree of existing social support, in terms of the number of people that may interact with the individual. This may not have reflected the type of social support I intended to measure. Alternatively, there is the possibility that how I operationalized stress did not have the same relationship to social support as other operationalized measures of stress studied with the RCM.

I utilized a convenience sample in this study. Based on the homogeneous sample, these findings may not generalize to all Hispanic Americans. This sample was predominantly Spanish-speaking, which does not reflect all Hispanics living within the United States. The sample was also narrow in terms of education level and income ranges. External validity would be violated if these findings were used to describe all Hispanic individuals. Additionally, the LOT-R did not reflect a high level of internal consistency, leading me to interpret the findings from this scale with caution. It is quite possible that this measure did not adequately reflect the experience of optimism with my sample. A final limitation is that the RCM presumes that stress impacts individual reserves over a period of time, which leads to poor health outcomes. My study was cross-sectional in nature, measuring perceptions of discrimination, health-related quality of life, and mediating variables contemporaneously. This prevents me from being able to make causal statements. My study does not indicate that increased perceptions of discrimination lead to poor health outcomes, only that these two variables are negatively related.

Future Research

Future research should consider testing perceptions of discrimination as a stressor, as it relates to more concrete examples of health, or engagement in health behaviors. For example, research has found that exposure to discrimination can increase ambulatory blood pressure (Richman et al., 2010). However, this study did not include potential mediators, as could be done using the RCM. Baum and Posluszny (1999) found that stress was negatively related to health, specifically with behaviors related to diet, exercise, tobacco use, and using sunscreen. It is unknown if discrimination could serve as a variable to represent stress and its relationship with these health behaviors. Ideally, future research should evaluate perceptions

of discrimination using a sample including both African Americans and Hispanic Americans. This would allow researchers to test for differences between these groups, in addition to seeing how the entire sample is impacted by perceptions of discrimination.

Research should consider using other measures of reserve capacity and negative emotion, as they relate to discrimination and health-related quality of life. Whereas optimism and social support were theoretically suitable to represent reserve capacity, they presented unique problems with translations available, as well as with how they were interpreted within the culture of participants from my study. Additional research on the local culture is recommended, with potentially pilot testing or the use of focus groups, to increase the likelihood that the chosen measures adequately reflect the construct of interest.

Finally, researchers should seek to evaluate if poor health outcomes among Hispanic Americans can be improved by addressing negative emotions and reserve capacity. An intervention targeting these specific areas could elucidate whether this path is reversible. There is a potential for intervention at an early age, among Hispanic American children, working to build optimism qualities before perceptions of discrimination become salient. Health professionals could play an essential role in identifying symptoms of anxiety, and making referrals for treatment before the onset of chronic illness in otherwise healthy patients. While the mechanisms of implementing change based on my findings are broad, the larger picture is that we have an opportunity to make positive changes for individuals at risk for poor health-related quality of life conditions.

Conclusion

My study sought to determine if the relationship between perceptions of discrimination and health-related quality of life could be mediated by an individual's reserve

capacity and negative emotions. My results showed that perceptions of discrimination were strongly and negatively related to physical and mental health-related quality of life. These relationships were partially mediated by optimism and symptoms of trait anxiety.

Table 1

Demographic Variables

Variable	Frequency	Percent of Total
Education		
Less than 9th Grade	92	40.2
Some high school	62	27.1
High school diploma/GED	42	18.3
Technical School	18	7.9
2-year college degree	5	2.2
4-year college degree	8	3.5
Graduate degree	2	0.9
Employment		
Working full-time	75	34.1
Working one part-time job	35	15.9
Working multiple part-time jobs	2	0.9
Retired	5	2.3
Unemployed, but looking for work	53	24.1
Unemployed, not looking for work	19	8.6
Student	12	5.5
Other	19	8.6
Annual Income		
$0 – $10,000	83	42.8
$10,001 – $20,000	70	36.1
$20,001 – $30,000	30	15.5
$30,001 – $40,000	9	4.6
$40,001 – $50,000	2	1.0
Worship Service Attendance		
Never	26	11.3
Rarely	41	17.8
Once per month	21	9.1
Twice per month	22	9.6
Once per week	72	31.3
Twice per week	29	12.6
Almost daily	14	6.1
More than once per day	5	2.2

Table 2

Descriptive Statistics and Correlations among Variables

Variable	1	2	3	4	5	6
1. PEDQ	--					
2. LOT-R	-.14	--				
3. LSNS	-.09	-.23**	--			
4. STAI	.40**	-.42**	-.33**	--		
5. PHC	-.18*	.18**	.12	-.37**	--	
6. MHC	-.36**	.15*	.22**	-.59**	.23**	--
Mean	29.01	20.27	14.01	40.32	49.99	49.62
Standard Deviation	11.19	3.14	6.54	10.16	7.75	9.28
Coefficient Alpha	.92	.14	.87	.87	.86	.86

Note: PEDQ = Perceived Ethnic Discrimination Questionnaire; LOTR – Life Orientation Test Revised; LSNS – Lubbin Social Network Scale; STAI – State Trait Anxiety Inventory; PHC – Physical Health Component; MHC – Mental Health Component

*$p < .05$. **$p < .01$.

Table 3

Correlations of Control Variables with Outcome Variables

Covariate	Physical Health-Related Quality of Life	Mental Health-Related Quality of Life
Age	-.09	.05
Education	-.04	-.06
Income	.14	.004
Religiosity	.03	.04

Note. All correlations are non-significant.

Table 4

Mean Comparisons by Control Variables of Physical Health-Related Quality of Life

Variable	*M*	*SD*	*p*
Location of Survey Administration[1]			N.S.
Salvation Army Westport, *n* = 64	49.84	8.34	
Salvation Army Blue Springs, *n* = 39	48.78	8.35	
Salvation Army Harbor Light, *n* = 117	50.48	7.21	
Survey Administration Type[2]			N.S.
Group at church, *n* = 57	50.19	7.80	
Group after activity, *n* = 28	48.21	9.77	
Individually, waiting for social services, *n* = 135	50.28	7.26	
Sex[3]			N.S
Female, *n* = 151	49.65	7.55	
Male, *n* = 68	50.68	8.23	
Marital Status[4]			N.S
Partnered, *n* = 151	50.06	7.50	
Not Partnered, *n* = 69	49.84	8.37	
Preferred Language[5]			N.S.
English, *n* = 23	47.84	10.23	
Spanish, *n* = 176	50.25	7.38	
Survey Language[6]			N.S.
English, *n* = 22	47.33	9.44	
Spanish, *n* = 198	50.29	7.51	
Employment Status[7]			N.S.
Employed, *n* = 106	50.21	7.62	
Not Employed, *n* = 100	49.66	8.01	
Health Insurance[8]			N.S.
Insured, *n* = 32	50.59	8.24	
Uninsured, *n* = 182	49.89	7.64	
Doctor Availability[9]			N.S.
Has a doctor, *n* = 67	51.35	7.67	
Has no doctor, n = 151	49.33	7.75	

Note. N.S. = $p > .05$
[1]$F(2, 217) = 0.72$; [2]$F(2, 217) = .84$; [3]$t(217) = -.91$; [4]$t(218) = .19$; [5]$t(197)$ -1.40; [6]$t(218) = -1.70$; [7]$t(204) = 0.51$; [8]$t(212) = .47$; [9]$t(216) = 1.78$

Table 5

Mean Comparisons by Control Variables of Mental Health-Related Quality of Life

Variable	*M*	*SD*	*p*
Location of Survey Administration[1]			N.S.
Salvation Army Westport, *n* = 64	47.86	9.96	
Salvation Army Blue Springs, *n* = 39	48.72	9.63	
Salvation Army Harbor Light, *n* = 117	50.86	8.66	
Survey Administration Type[2]			N.S.
Group at church, *n* = 57	47.11	10.00	
Group after activity, *n* = 28	50.64	9.26	
Individually, waiting for social services, *n* = 135	50.47	8.84	
Sex[3]			N.S.
Female, *n* = 151	49.33	9.33	
Male, *n* = 68	50.34	9.27	
Marital Status[4]			N.S.
Partnered, *n* = 151	49.56	9.03	
Not Partnered, *n* = 69	49.76	9.76	
Preferred Language[5]			$p < .001$
English, *n* = 23	43.02	10.71	
Spanish, *n* = 176	50.47	8.91	
Survey Language[6]			N.S.
English, *n* = 22	46.63	9.34	
Spanish, *n* = 198	49.95	9.24	
Employment Status[7]			N.S.
Employed, *n* = 106	49.14	9.88	
Not Employed, *n* = 100	49.79	8.77	
Health Insurance[8]			N.S.
Insured, *n* = 32	47.54	8.58	
Uninsured, *n* = 182	50.04	9.29	
Doctor Availability[9]			N.S.
Has a doctor, *n* = 67	48.83	9.43	
Has no doctor, *n* = 151	49.40	9.23	

Note. N.S. = $p > .05$

[1] $F(2, 217) = 2.34$; [2] $F(2, 217) = 2.88$; [3] $t(217) = -.74$; [4] $t(218) = -.15$; [5] $t(197) = -3.68$; [6] $t(218) = -1.60$; [7] $t(204) = -.50$; [8] $t(212) = -1.42$; [9] $t(216) = .32$

Table 6

Chi-square Tests for Differences in Missing Data

Variable	χ^2	*df*	*p*
Location of Survey Administration	4.81	2	.09
Survey Administration Type	6.00	2	.05
Sex	0.11	1	.74
Marital Status	1.10	1	.30
Employment Composite	2.51	1	.11
Preferred Language	5.22	2	.07
Language of Survey	2.30	1	.13
Insurance	1.39	2	.50
Doctor	0.10	1	.76

Table 7

Independent t-tests for Differences in Missing Data

Variable	*t*	*df*	*p*
Age	-0.54	232	.59
Education	2.00	227	.05
Religiosity	-2.30	228	.02
Income	0.05	192	.96
PEDQ	1.44	211	.15
LOTR	-1.41	218	.16
LSNS	0.37	218	.71
STAI	1.95	198	.05
PHC	-.23	218	.82
MHC	-2.03	218	.04

Note: PEDQ = Perceived Ethnic Discrimination Questionnaire; LOTR – Life Orientation Test Revised; LSNS – Lubbin Social Network Scale; STAI – State Trait Anxiety Inventory; PHC – Physical Health Component; MHC – Mental Health Component

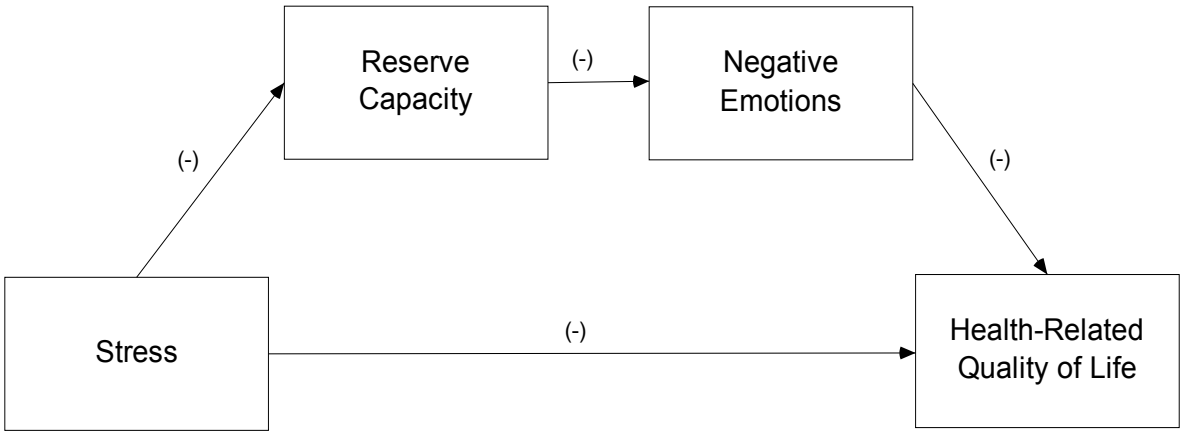

Figure 1. Hypothesized Relationships between Stress and Health-Related Quality of Life through Reserve Capacity and Negative Emotions

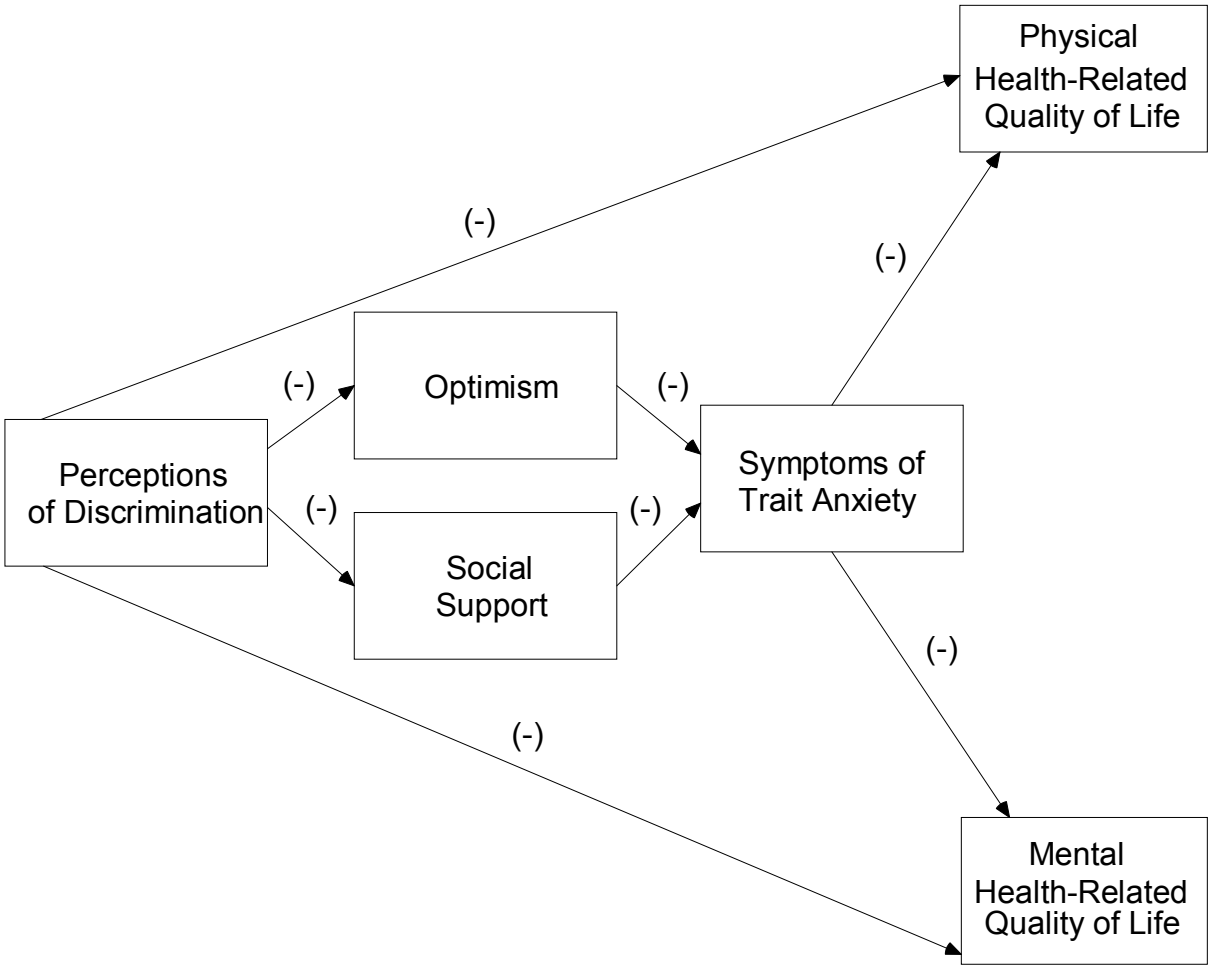

Figure 2. Hypothesized Model reflecting RCM and Study Variables

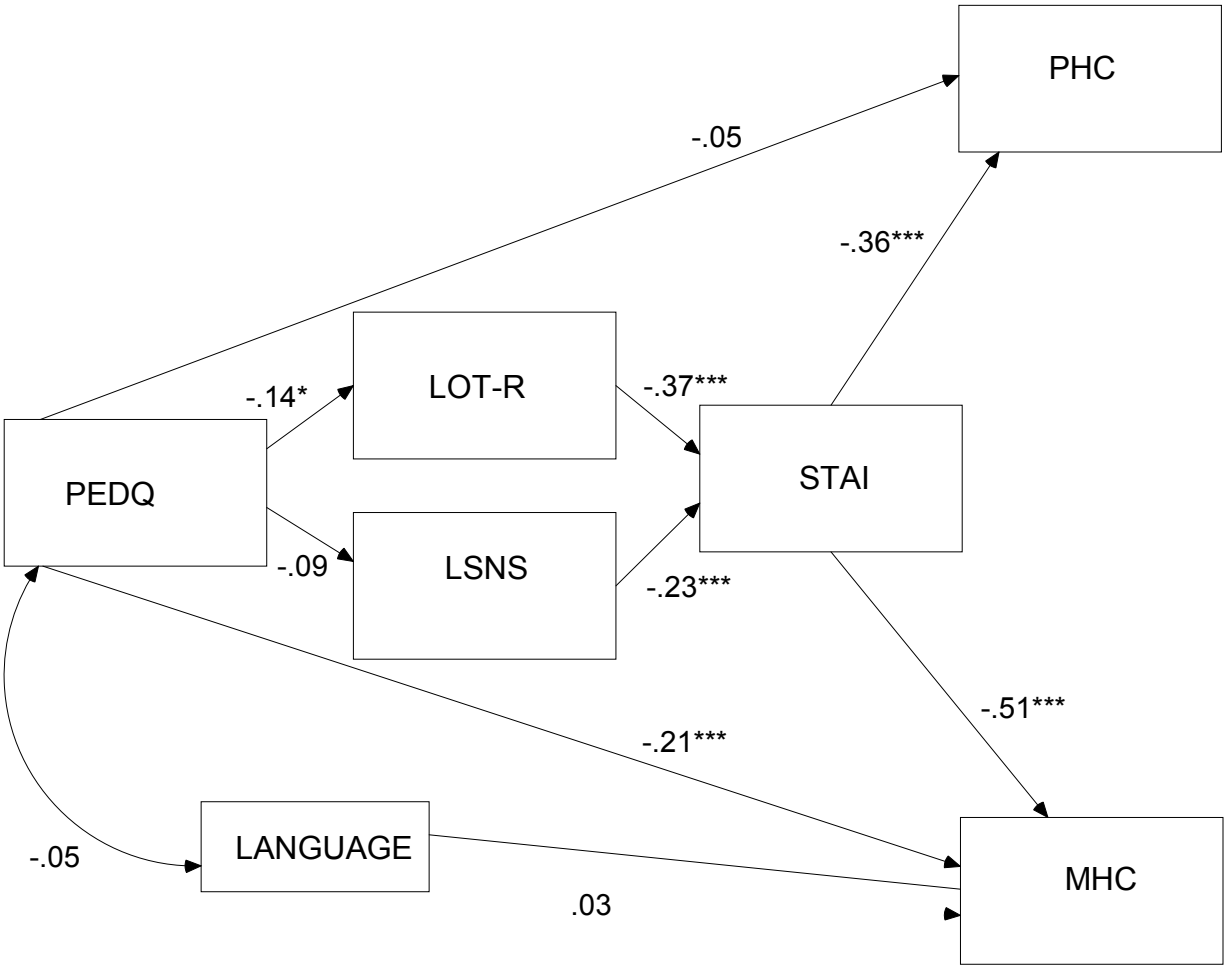

Figure 3. First analyzed Model including β values and statistical significance

Note. PEDQ = Perceived Ethnic Discrimination Questionnaire; LOTR – Life Orientation Test Revised; LSNS – Lubbin Social Network Scale; STAI – State Trait Anxiety Inventory; PHC – Physical Health Component; MHC – Mental Health Component

*$p < .05$. **$p < .01$. ***$p < .001$.

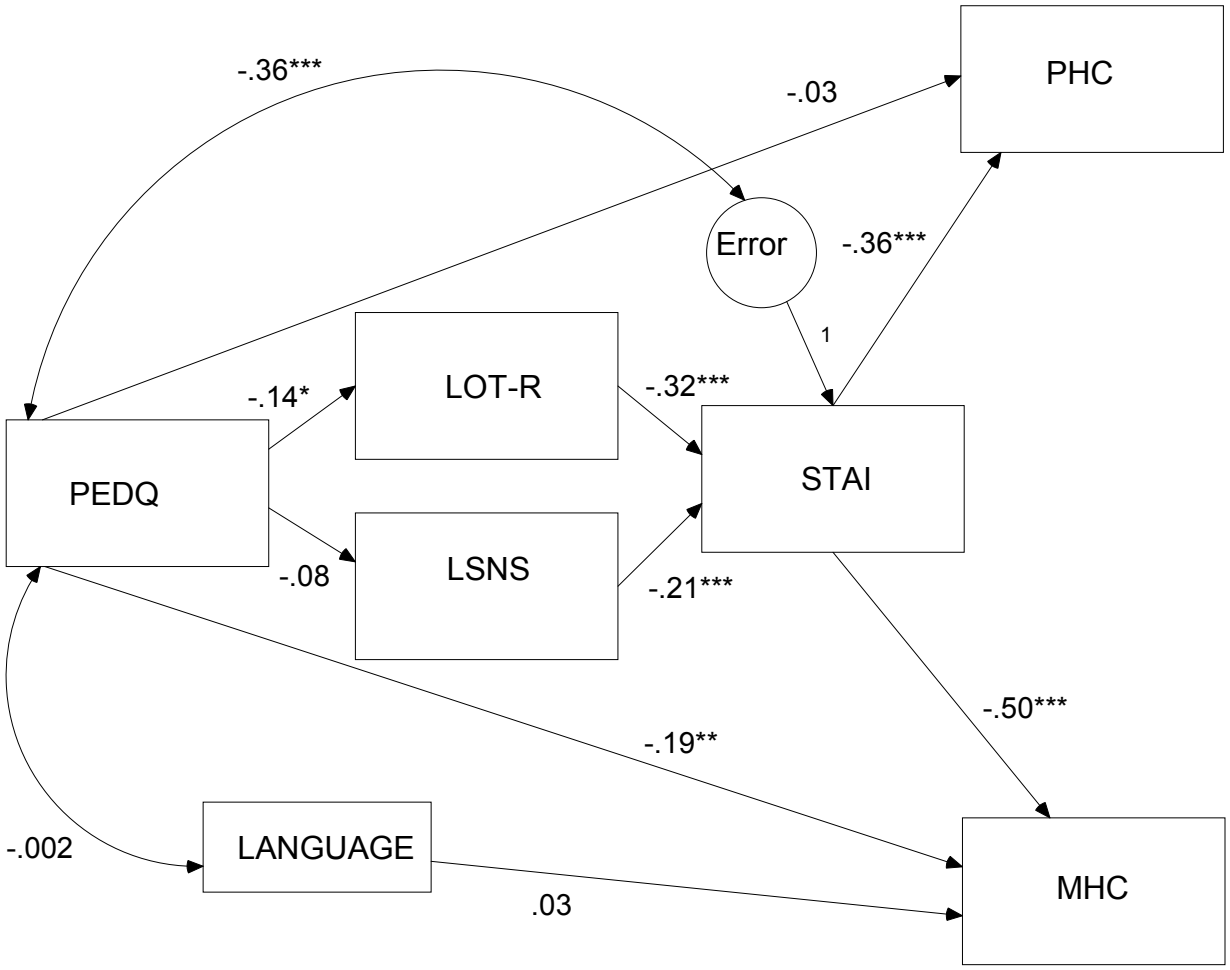

Figure 4. Second analyzed model, adding a covariance path between Error and PEDQ.

Note. PEDQ = Perceived Ethnic Discrimination Questionnaire; LOTR – Life Orientation Test Revised; LSNS – Lubbin Social Network Scale; STAI – State Trait Anxiety Inventory; PHC – Physical Health Component; MHC – Mental Health Component

*$p < .05$. **$p < .01$. ***$p < .001$.

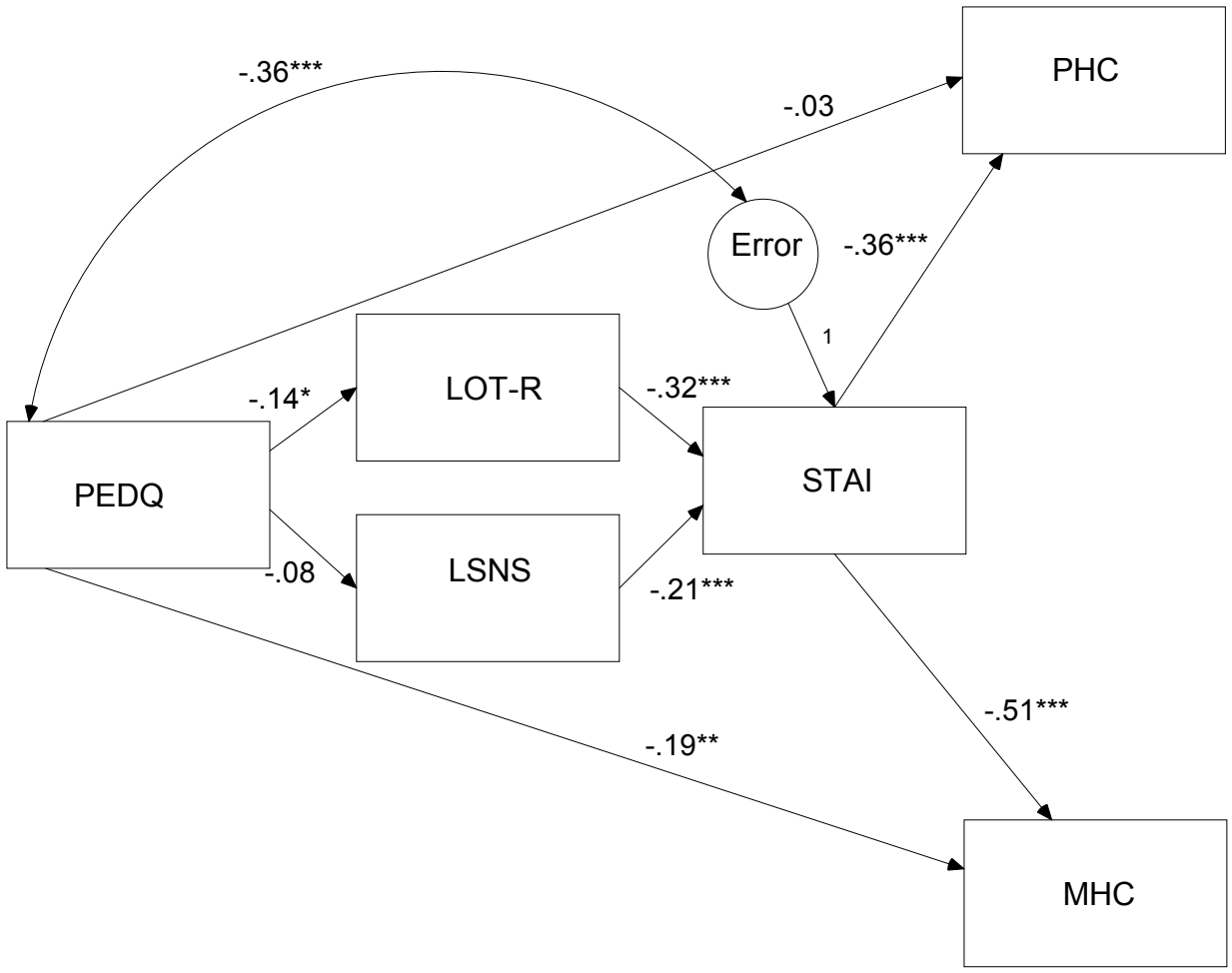

Figure 5. Third analyzed model removing Language as a covariate.

Note. PEDQ = Perceived Ethnic Discrimination Questionnaire; LOTR – Life Orientation Test Revised; LSNS – Lubbin Social Network Scale; STAI – State Trait Anxiety Inventory; PHC – Physical Health Component; MHC – Mental Health Component

*$p < .05$. **$p < .01$. ***$p < .001$.

APPENDIX A

Dear Sir or Madam,

You are being asked to volunteer for a research study. This study is being conducted at the Salvation Army and is completely voluntary.

I am conducting research on how discrimination impacts quality of life for individuals in our community. I am investigating this because I believe it will help us better understand differences in health among individuals of Hispanic descent, and help us understand what we can do to improve quality of life among Hispanics. I hope to collect information from approximately 150 individuals like you in this study.

If you decide to participate, your information will be *completely anonymous*. You will be asked to complete a survey that will take approximately 15 – 20 minutes today. You will not be asked to provide any identifying information, and no one from our study will attempt to contact you after today. I do not expect that this survey will be unpleasant, however if you feel upset or want to talk to someone after completing the survey, you can contact the United Way of Greater Kansas City by dialing 211 on your phone. If you would like additional assistance, a research team member can provide you today with a list of mental health resources to assist you.

Taking part in this project is entirely up to you, and no one will hold it against you if you decide not to participate. In addition, you may choose to withdraw from the study at any time without penalty. There are no benefits or costs to you to participate in this study. If you decide to participate in this study and complete the attached survey, you will be provided with a $5 gift card to Quik Trip, as a small token of my appreciation for the time you spent.

If you agree to participate in this study, please proceed to the next document on this clipboard, the study's survey. After you complete the survey, you can put it in the attached envelope and drop it in the research team's box, or give it directly to a member of my research team.

If you want to know more about this research project, please contact me at (816) 235-1064. Or, you can contact my advisor, Dr. Kymberley Bennett, at the same number. This project has been approved by the Institutional Review Board at the University of Missouri, Kansas City (UMKC). Information on the UMKC policy and procedure for research involving humans can be obtained from Germaine Hughes, Administrator of the Social Science Institutional Review Board, at (816) 235-1764.

Thank you for your consideration.

Sincerely,

Alisha D. Adams
Graduate Student, Researcher

APPENDIX B

Estimado Señor o Señora:

Esta usted invitado a participar en un estudio que se llevara a cabo con la ayuda del Ejército de Salvación (Salvation Army). Su participación es completamente voluntaria.

La reta de este estudio es para identificar como la discriminación afecta la calidad de vida de individuos dentro de nuestra comunidad. Es más, creo que este estudio nos ayudará entender mejor las diferencias de la salud mental entre los hispanos, y para ganar información en cómo podemos mejorar la calidad de vida de individuos Hispanos. Mi esperanza es de recluir información de 150 individuos, como Usted, en este estudio.

Si Usted decide participar en este estudio todas sus respuestas serán *anónimas completamente.* Será de solo responder a un cuestionario que podrá terminar dentro de 15 – 20 minutos. No es necesario revelar ninguna información sobre su identidad o información personal y nadie de nuestro grupo lo contactará después de terminar de contestar el cuestionario. Aunque no pienso que este cuestionario le causará sentirse incomodo, si por alguna razón se siente incomodo después de contestar el cuestionario usted puede comunicarse con el United Way de Greater Kansas City con tan solo maquear el 211 en su teléfono. Si desea otra forma de asistencia, un miembro del equipo del estudio le puede proveer una lista de recursos y enlaces de apoyo.

Su participación con este estudio es una decisión suya y nadie lo reprochará si en algún momento Usted decide no participar. Usted se pude retirar del estudio sin tener alguna pena. El estudio es totalmente gratis y no requiere ningunos gastos ni beneficios para usted. Si usted decide participar en el estudio y completar el cuestionario se le proveerá un pequeño regalo de agradecimiento por su tiempo, una tarjeta de la tienda Quik Trip valorada a $5.00.

Si está de acuerdo en participar en este estudio por favor de continuar empezando con contestar las preguntas del cuestionario que está apegado a esta carta. Al terminar el cuestionario por favor de ponerlo en el sobre que va incluido y entréguelo en la caja de correspondencia indicada para el equipo de investigación. También puede entregárselo directamente a un miembro de mi equipo de investigación.

Si desea saber más sobre este proyecto de investigación por favor llame al (816)-235-1064. Si desea hablar con me supervisora la Dr. Kymberley Bennett puede hacerlo con llamar al mismo número. Este proyecto fue aprobado por un comité de revisión institucional en la Universidad de Missouri, Kansas City (UMKC). Información sobre los principios y formas de estudios sobre la sicología y el estudio de personas se puede obtener por Germaine Hughes Administradora del Comité de Ciencias Sociales Institucional (Administrador of Social Science Institutional Review Board) en el (816)-235-1764.

Muchas gracias por su consideración.

Atentamente,
Alisha D. Adams
Estudiante de Posgrado, Investigadora Científica

APPENDIX C

El Centro, Inc.
Strengthening communities and empowering families through educational, social, and economic opportunities
650 Minnesota Ave.
Kansas City, KS 66101
(913) 777-0100

Guadalupe Center
Providing early childhood, secondary, preparatory and adult educational programs. Facilitating access to health and social services for all ages. Promoting and providing Latino cultural enrichment events.
1015 Avenida Cesar E. Chavez
Kansas City, MO 64108
(816) 472-4770

KC Free Health Clinic
The purpose of Kansas City Free Health Clinic is to promote health and wellness by providing quality services (including physical health and behavioral health services), at no charge, to people without access to basic care.
3515 Broadway
Kansas City, MO 64111
(816) 753-5144

Mattie Rhodes
Providing bilingual and bi-cultural mental health and social services for the Hispanic community
1740 Jefferson Street
Kansas City, MO 64108
(816) 471-2536

Tri-County Mental Health Services
Prevention, assessment and treatment services for individuals and families throughout Clay, Platte and Ray counties
3100 NE 83rd St., Suite 1001
Kansas City, MO 64119-9998
(816) 468-0400

Truman Medical Center
Providing emergency medical care, routine medical care, mental health care, and substance abuse counseling
2301 Holmes
Kansas City, MO 64108
(816) 404-1000

Western Missouri Center for Behavioral Medicine
Providing comprehensive psychiatric care to patients from Kansas City and the seven surrounding counties
1000 East 24th Street
Kansas City, MO 64108
(816) 512-7000

Samuel U. Rodgers Community Health Center
Providing physical and mental health services to all members of the community
825 Euclid Ave.
Kansas City, MO 64124
(816) 474-4920

APPENDIX D

May 3, 2010

Alisha D. Adams
UMKC - Department of Psychology
4825 Troost Ave Room 210A
Kansas City, MO 64110

SSIRB #: 100312: Discrimination and Health: How Being Hispanic in the US can Make you Sick

Approval Date: April 6, 2010

Dear Ms. Adams:

Your study noted above was reviewed and approved with restrictions on April 6, 2010 through the Social Sciences Institutional Review Board's expedited review process. You have met the requirements of the restrictions.

Your study has received approval under Category 5 of the categories of research that may receive expedited review. You may therefore proceed with your study.

Your request for a waiver/alteration of informed consent has been approved.

Notwithstanding the SSIRB's approval to conduct the study, in the following situations you must provide timely additional information in order to maintain the SSIRB's approval.

1. The SSIRB cannot approve studies for more than one year. Unless the SSIRB renews its approval, your authority to conduct this study will expire on 4/5/2011. To request a continuation of your authority to conduct the study you will need to submit a completed Research Progress Report to the SSIRB office. Your authority to conduct the study cannot be continued until your completed Research Progress Report has received the necessary SSIRB review and approval. Therefore, you need to submit the completed Research Progress Report at least one month prior to the anniversary date of your project's approval/reapproval. The date of this letter is the approval date for your study. However, if your study requires more than one extension, the applicable anniversary date may change from year-to-year. Consult your most recent approval/reapproval letter for the applicable anniversary date. Call the SSIRB office if you have questions about this.

2. If you want to make a change to the study, you must obtain the SSIRB's prior approval of the change.

3. If you want to add or delete investigators from the study, you must obtain the SSIRB's prior approval of the addition or deletion.

4. If a participant in your study is injured in connection with their participation, you must inform the SSIRB regarding this adverse event in a timely way.

Please inform the SSIRB when you complete the study.

If we can be of further assistance, please don't hesitate to call the SSIRB office at 816-235-1764. Best wishes for a successful study.

PLEASE NOTE:
If you are using a signed consent form a stamped and approved by the SSIRB version will follow via a separate email. You must receive the stamped version before you begin consenting subjects. All subjects must be consented on a copy of the approved consent form with the SSIRB Stamp. If requested, a hard copy of the stamped consent can be mailed to you.

Thanks,

Ms. Germaine Hughes
Administrator
Social Sciences Institutional Review Board
University of Missouri - Kansas City
5319 Rockhill Road
Kansas City, MO 64110-2499
Office: 816-235-1764
Fax: 816-235-5602
hughesge@umkc.edu

APPENDIX E

Opinion Survey

Please answer each question as best you can. There are no correct or incorrect answers. Your responses to these questions will remain *strictly confidential*.

Demographics

1. What is your age? _____

2. What is your sex? _____ Female _____ Male

3. What is your ethnic background? (Please check one)

_____ Hispanic/Latino
_____ Central American
_____ Cuban
_____ Latin American
_____ Bi-racial or more than one race
_____ Puerto Rican
_____ Caribbean
_____ Spanish
_____ Mexican
_____ Other, please specify _____

4. What language are you most comfortable in speaking?

_____ English
_____ Spanish

5. How many years of school have you completed? (Please check one)

_____ Less than 9th grade
_____ Some High School, did not finish
_____ High School diploma/GED
_____ Technical School
_____ 2-year College Degree
_____ 4-year College Degree
_____ Graduate degree (Master's)

6. What is your marital status? (Please check one)

_____ Divorced
_____ Serious Relationship, not married
_____ Single
_____ Married
_____ Separated
_____ Widowed

7. For the past year, how often have you attended worship services?

_____ Never
_____ Rarely
_____ Once a month
_____ Twice a month
_____ Once a week
_____ Twice a week
_____ Almost daily
_____ More than once a day

Please continue to the next page…..

8. What is your current employment status? (Please check *only one* that best represents you)

_____ Working full-time
_____ Working one part-time job
_____ Working multiple part-time jobs
_____ I am retired
_____ Unemployed, but looking for work
_____ Unemployed, not looking for work
_____ I am a student
_____ Other (please specify) _____

9. About how much money do you bring home each year? Take into consideration all types of monthly income for all your household members. (Please check one)

_____ $0 - $9,999
_____ $10,000 - $20,000
_____ $20,001 - $30,000
_____ $30,001 - $40,000
_____ $40,001 - $50,000
_____ $50,001 - $60,000
_____ $60,001 - $70,000
_____ $70,001- $ 80,000
_____ $80,001 - $90,000
_____ $90,001 - $100,000
_____ more than $100,000

10. Do you have health insurance? (Please check one)
_____ Yes _____ No _____ I don't know

11. Do you have a doctor that you are able to visit when you are sick? (Please check one)

_____ Yes _____ No

(PEDQ)

Think about your **ethnicity/race**. How often have any of the things listed below happened to you**, because of your ethnicity**?

Please answer these questions where 1 = *Never*, 3 = *Sometimes*, and 5 = *Very Often*.

BECAUSE OF YOUR ETHNICITY/RACE …

How often…		**Never**		**Sometimes**		**Very Often**
1.	Have you been treated unfairly by teachers, principals, or other staff at school?	1	2	3	4	5
2.	Have others thought you couldn't do things or handle a job?	1	2	3	4	5

Please continue to the next page……

How often…		Never		Sometimes		Very Often
3.	Have others threatened to hurt you (ex: said they would hit you)?	1	2	3	4	5
4.	Have others actually hurt you or tried to hurt you (ex: kicked or hit you)?	1	2	3	4	5
5.	Have policemen or security officers been unfair to you?	1	2	3	4	5
6.	Have others threatened to damage your property?	1	2	3	4	5
7.	Have others actually damaged your property?	1	2	3	4	5
8.	Have others made you feel like an outsider who doesn't fit in because of your dress, speech, or other characteristics related to your ethnicity?	1	2	3	4	5
9.	Have you been treated unfairly by co-workers or co-workers?	1	2	3	4	5
10.	Have others hinted that you are dishonest or be trusted?	1	2	3	4	5
11.	Have people been nice to you to your face, but said bad things about you behind your back?	1	2	3	4	5
12.	Have people who speak a different language made you feel like an outsider?	1	2	3	4	5
13.	Have others ignored you or not paid attention to you?	1	2	3	4	5
14.	Has your boss or supervisor been unfair to you?	1	2	3	4	5

Please continue to the next page….

How often…		Never		Sometimes		Very Often
15.	Have others hinted that you must not be clean?	1	2	3	4	5
16.	Have people not trusted you?	1	2	3	4	5
17.	Has it been hinted that you must be lazy?	1	2	3	4	5

(LOT-R)

Please think about your life in general and answer the questions below where 1 = *I disagree a Lot*, 2 = *I Disagree, 3 = I Neither Agree or Disagree*, 4 = *I Agree a Little,* and 5 = *I Agree a Lot*.
HOW DO YOU SEE YOUR LIFE IN GENERAL?

		I Disagree A Lot	I Disagree	I Neither Agree or Disagree	I Agree A Little	I Agree A Lot
1.	In uncertain times I usually expect the best.	1	2	3	4	5
2.	It's easy for me to relax.	1	2	3	4	5
3.	If something can go wrong for me, it will.	1	2	3	4	5
4.	I'm always optimistic about my future.	1	2	3	4	5
5.	I enjoy my friends a lot.	1	2	3	4	5
6.	I hardly ever expect things to go my way.	1	2	3	4	5
7.	It's important to me to keep busy.	1	2	3	4	5
8.	I rarely count on good things happening to me.	1	2	3	4	5
9.	Overall, I expect more good things to happen to me than bad.	1	2	3	4	5

Please continue to the next page….

(LSNS-6)

CONSIDERING THE PEOPLE TO WHOM YOU ARE RELATED BY BIRTH OR BY MARRIAGE:

	None	1 Person	2 People	3 to 4 People	5 to 8 People	9 or More People
1. How many relatives do you see or hear from at least once a month?	0	1	2	3	4	5
2. How many relatives do you feel at ease with that you can talk about private matters?	0	1	2	3	4	5
3. How many relatives do you feel close to that you could call on them for help?	0	1	2	3	4	5

CONSIDERING ALL OF YOUR FRIENDS INCLUDING THOSE WHO LIVE IN YOUR NEIGHBORHOOD:

4. How many of your friend do you see or hear from at least once a month?	0	1	2	3	4	5
5. How many friends do you feel at ease with that you can talk with about private matters?	0	1	2	3	4	5
6. How many friends do you feel close to such that you could call on them for help?	0	1	2	3	4	5

Please continue to the next page…..

(STAI)

A number of statements which people have used to describe themselves are given below. Read each statement and then circle to the right of the statement to indicate how you *generally* feel.

Generally……		**Not at All**	**Somewhat**	**Moderately**	**Very Much**
1.	I feel pleasant	1	2	3	4
2.	I feel nervous and restless	1	2	3	4
3.	I feel satisfied with myself	1	2	3	4
4.	I wish I could be as happy as others seem to be	1	2	3	4
5.	I feel like a failure	1	2	3	4
6.	I feel rested	1	2	3	4
7.	I am "calm, cool, and collected"	1	2	3	4
8.	I feel that difficulties are piling up so that I cannot overcome them	1	2	3	4
9.	I worry too much over something that really doesn't matter	1	2	3	4
10.	I am happy	1	2	3	4
11.	I have disturbing thoughts.	1	2	3	4
12.	I lack self-confidence	1	2	3	4
13.	I feel secure	1	2	3	4
14.	I make decisions easily	1	2	3	4
15.	I feel inadequate	1	2	3	4
16.	I am content	1	2	3	4
17	Some unimportant thought runs through my mind and bothers me	1	2	3	4

Please continue to the next page……

Generally……	Not at All	Somewhat	Moderately	Very Much
18. I take disappointments so keenly that I can't put them out of my mind	1	2	3	4
19. I am a steady person	1	2	3	4
20. I get in a state of tension or turmoil as I think over my recent concerns and interests	1	2	3	4

(SF – 8)

1. Overall, how would you rate your health during the **past 4 weeks?**

_____ Excellent
_____ Very good
_____ Good
_____ Fair
_____ Poor
_____ Very poor

2. During the **past 4 weeks,** how much did physical health problems limit your usual physical activities (such as walking or climbing stairs)?

_____ Not at all
_____ Very little
_____ Somewhat
_____ Quite a lot
_____ Could not do physical activities

3. During the **past 4 weeks,** how much difficulty did you have doing your daily work, both at home and away from home, because of your physical health?

_____ None at all
_____ A little bit
_____ Some
_____ Quite a lot
_____ Could not do daily work

4. How much bodily pain have you had during the **past 4 weeks?**

_____ None
_____ Very mild
_____ Mild
_____ Moderate
_____ Severe
_____ Very severe

Please continue to the next page…..

5. During the **past 4 weeks**, how much energy did you have?

_____ Very much
_____ Quite a lot
_____ Some
_____ A little
_____ None

6. During the **past 4 weeks**, how much did your physical health or emotional problems limit your usual social activities with family or friends?

_____ Not at all
_____ Very little
_____ Somewhat
_____ Quite a lot
_____ Could not do social activities

7. During the **past 4 weeks**, how much have you been bothered by **emotional problems** (such as feeling anxious, depressed or irritable)?

_____ Not at all
_____ Slightly
_____ Moderately
_____ Quite a lot
_____ Extremely

8. During the **past 4 weeks**, how much did personal or emotional problems keep you from doing your usual work, school or other daily activities?

_____ Not at all
_____ Very little
_____ Somewhat
_____ Quite a lot
_____ Could not do daily activities

Thank you very much for completing this survey.

We greatly appreciate your time and willingness to help us

APPENDIX F

Encuentra de Opiniones

Por favor, conteste a cada pregunta a lo mejor que pueda. No hay respuestas ni correctas ni equivocadas. Sus respuestas a estas preguntas serán quedadas estrictamente confidenciales.

Características

1. ¿Qué es su edad? _____

2. ¿Cuál es su sexo? _____ Femenino _____ Masculino

3. ¿Cuál es su origen étnico? (Por favor, marque uno)

_____ Hispano/Latino	_____ Puertorriqueño
_____ Centro Americano	_____ Caribeño
_____ Cubano	_____ Españolo
_____ Latino Americano	_____ Mexicano
_____ Más de un origen étnico	_____Otro(a), por favor, especifique _____

4. ¿Cuál idioma sea Usted más cómodo de hablar?

_____ Inglés	_____ Español

5. ¿Cuántos años cumplió de la educación? (Por favor, marque uno)

_____ Menos del 9^{o} grado	_____ 2 años de la universidad (Asociado)
_____ Algo de high school, no terminó	_____ 4 años de la universidad (Bachillerato)
_____ Diploma de high school/GED	_____ Diploma posgrado
_____ Estudio téchnico	

6. ¿Cuál es su estatus marital? (Por favor, marque uno)

_____ Divorciado(a)	_____ Casado(a)
_____ Relación seria pero no casado(a)	_____ Separado(a)
_____ Soltero(a)	_____ Viudo(a)

7. ¿Durante el año pasado, cuantas veces ha Usted asistido a servicios en la iglesia?

_____ Nunca	_____ Una vez por semana
_____ Raramente	_____ Dos veces por semana
_____ Una vez por mes	_____ Casi cada día
_____ Dos veces por mes	_____ Más que una vez por día

Por favor, continua en la página que sigue…

8. ¿Qué es su estado de trabajo? (Por favor, marque *solo uno* que mejor se representa.)

_____ Trabajo de tiempo completo
_____ Trabajo un puesto de tiempo medio
_____ Trabajo algunos puestos de tiempo medio
_____ Soy jubilado(a)
_____ Desempleado, pero estoy buscando trabajo
_____ Desempleado, no estoy buscando trabajo
_____ Soy estudiante
_____ Otro (por favor, especifique) _____

9. ¿Cuánto dinero, más o menos, gana Usted durante el año? Tome en cuenta todo tipo de ingreso en su hogar. (Por favor, marque uno)

_____ $0 - $9,999
_____ $10,000 - $20,000
_____ $20,001 - $30,000
_____ $30,001 - $40,000
_____ $40,001 - $50,000
_____ $50,001 - $60,000
_____ $60,001 - $70,000
_____ $70,001- $ 80,000
_____ $80,001 - $90,000
_____ $90,001 - $100,000
_____ más que $100,000

10. ¿Tiene Usted seguro médico? (Por favor, marque uno)

_____ Sí _____ No _____ No sé

11. ¿Tiene Usted un doctor con quien puede visitar cuando esté enfermo?

_____ Sí _____ No

(PEDQ)

Piense sobre su grupo étnico. ¿Con qué frecuencia han pasado cada uno de las siguientes cosas, a **causa de su raza o grupo étnico**?

Por favor, conteste las preguntas, como 1 = *Nunca,* 3 = *A Veces,* y 5 = *La Mayoria del Tiempo.*

A CAUSA DE SU RAZA O GRUPO ÉTNICO …

¿Cuán a menudo…	**Nunca**		**A Veces**		**La mayoría del tiempo**
1. ¿Ha sido Usted tratado(a) injustamente por algún profesor(a), director(a) o el personal escolar?	1	2	3	4	5

Por favor, continua en la página que sigue…

¿Cuán a menudo…		Nunca		A Veces		La mayoría del tiempo
2.	¿Alguna persona ha subestimado su habilidad de hacer encargarse de algún trabajo?	1	2	3	4	5
3.	¿Alguna persona ha amenazado(a) con herirlo(a) (por ejemplo: le han dicho que le pegarán)?	1	2	3	4	5
4.	¿Alguna persona lo(a) ha llegado a herir o han tratado de hacerlo (por ejemplo: alguien le pegó o le pateó)?	1	2	3	4	5
5.	¿Ha sentido usted que algún policía u oficial de seguridad ha sido injusto con usted?	1	2	3	4	5
6.	¿Alguna persona ha amenazado con dañar su propiedad?	1	2	3	4	5
7.	¿Alguna persona ha llegado a hacerlo?	1	2	3	4	5
8.	¿Alguna persona lo(a) hecho sentir como un(a) extraño(a) que no pertenece al grupo debido a su forma de verter, de hablar, o por alguna otra característica relacionada a su procedencia?	1	2	3	4	5
9.	¿Alguna vez ha sido usted tratado(a) injustamente por sus compañeros(as) de trabajo o de clase?	1	2	3	4	5

Por favor, continua en la página que sigue…

¿Cuán a menudo…		Nunca		A Veces		La mayoría del tiempo
10.	¿Alguna persona lo(a) ha categorizado como deshonesto(a) o como una persona en la cual no se puede confiar?	1	2	3	4	5
11.	¿Alguna persona ha sido gentil con usted y luego ha hablado mal de usted a sus espaldas?	1	2	3	4	5
12.	¿Alguna persona que habla otra idioma lo(a) ha hecho sentido como un(a) extraño(a)?	1	2	3	4	5
13.	¿Alguna persona lo(a) ha ignorado o no le ha prestado atención?	1	2	3	4	5
14.	¿Su jefe(a) o supervisor(a) ha sido injusto(a) con Usted?	1	2	3	4	5
15.	¿Alguna persona ha insinuado que usted no es una persona limpia?	1	2	3	4	5
16.	¿Alguna persona ha desconfiado de usted?	1	2	3	4	5
17.	¿Alguna persona ha insinuado que usted es una persona perezosa?	1	2	3	4	5

Por favor, continua en la página que sigue…

(LOT-R)

Piense en su vida, en general, y contesta las preguntas que siguen, con 1 = *Mucho Desacuerdo Mucho,* 2 = *Desacuerdo,* 3 = *Ni De Acuerdo Ni Desacuerdo,* 4 = *de Acuerdo,* 5 = *Mucho de Acuerdo*

¿CÓMO VEA USTED LA VIDA, EN GENERAL?

		Mucho Desacuerdo	Desacuerdo	Ni de acuerdo ni desacuerdo	De Acuerdo	Mucho de acuerdo
1.	En tiempos de incertidumbre, generalmente pienso que me va a ocurrir lo mejor	1	2	3	4	5
2.	Me es fácil relajarme.	1	2	3	4	5
3.	Si algo malo me puede pasar, estoy segura(o) que me pasará.	1	2	3	4	5
4.	Siempre soy optimista en cuanto al futuro.	1	2	3	4	5
5.	Yo disfruto de mis amistades.	1	2	3	4	5
6.	Rara vez espero que las cosas salgan a mi manera.	1	2	3	4	5
7.	Para mí, es importante estar siempre ocupado(a).	1	2	3	4	5
8.	No espero que cosas buenas me sucedan(a).	1	2	3	4	5
9.	En general, yo pienso que más cosas buenas que malas me van a suceder.	1	2	3	4	5

Por favor, continua en la página que sigue…

(LSNS)

CUANDO CONSIDERA LAS PERSONAS FAMILIARES POR <u>NACIMIENTO</u> O <u>MATRIMONIO</u>:

		Nadie	1a Persona	2 Personas	3 a 4 Personas	5 a 8 Personas	9 o Más Personas
1.	¿Con cuántos familiares se miran o conversan a lo menos una vez por mes?	0	1	2	3	4	5
2.	¿Con cuántas familiares se sienten cómodos(as) para hablar sobre asuntos privados?	0	1	2	3	4	5
3.	¿Con cuántas familiares se sienten cercanos(as), o tienen la confianza de llamar cuando necesita ayuda?	0	1	2	3	4	5

CUANDO CONSIDERA TODOS SUS AMIGOS, INCLUSO LOS QUIÉNES <u>VIVEN EN SU VECINDARIO</u>:

		Nadie	1a Persona	2 Personas	3 a 4 Personas	5 a 8 Personas	9 o Más Personas
4.	¿Con cuántos amistades se miran se hablan por lo menos una vez por mes?	0	1	2	3	4	5
5.	¿Con cuántos amistades se siente cómodos(as) para hablar sobre asuntos privados?	0	1	2	3	4	5
6.	¿Con cuántos amistades se sienten cercanos(as), o tiene la confianza de llamar cuando necesita ayuda?	0	1	2	3	4	5

Por favor, continua en la página que sigue…

(STAI) Se presentan varias afirmaciones que la gente ha utilizado para describirse. Lea cada afirmación y marque a la derecha la afirmación que indique cómo se siente *en general*.

Generalmente……		**Casi Nunca**	**A veces**	**A menudo**	**Casi siempre**
1.	Me siento bien	1	2	3	4
2.	Me siento nervioso(a) e intranquilo(a)	1	2	3	4
3.	Me siento satisfecho(a) con mi vida	1	2	3	4
4.	Desearía ser tan feliz como otros parecen serlo	1	2	3	4
5.	Me siento como si fuera un fracasado(a)	1	2	3	4
6.	Me siento sosegado(a)	1	2	3	4
7.	Soy una persona tranquila y controlo mis sentimientos	1	2	3	4
8.	Siento que las dificultades se acumulan de modo que no puedo superarlas	1	2	3	4
9.	Me preocupo demasiado por cosas que no tienen ninguna importancia	1	2	3	4
10.	Soy feliz	1	2	3	4
11.	Tengo pensamientos que me perturban	1	2	3	4
12.	Me falta seguridad en mí mismo(a)	1	2	3	4
13.	Me siento sereno(a)	1	2	3	4
14.	Tomo decisiones con facilidad	1	2	3	4
15.	Me siento incompetente	1	2	3	4
16.	Soy una persona realizada	1	2	3	4

Por favor, continua en la página que sigue…

Generalmente……		Casi Nunca	A veces	A menudo	Casi siempre
17.	Se me pasan por la cabeza pensamientos sin importancia que me preocupan	1	2	3	4
18.	Me tomo las decepciones tan a pecho que no puedo quitármelas de la cabeza	1	2	3	4
19.	Soy una persona estable	1	2	3	4
20.	Cuando pienso en mis preocupaciones y en lo que tengo que hacer entro en un estado de tensión y agitación	1	2	3	4

(SF – 8)

1. En general, ¿cómo calificaría su salud durante las **últimas 4 semanas?**

   _____ Excelente
   _____ Muy Buena
   _____ Buena
   _____ Pasable
   _____ Mala
   _____ Muy Mala

2. Durante las **últimas 4 semanas**, ¿cuánto le limitaron sus problemas de salud física sus actividades físicas usuales (caminar, subir escaleras)?

   _____ Nada, en absoluto
   _____ Muy Poco
   _____ Algo
   _____ No Mucho
   _____ No pude hacer actividades físicas

3. Durante las **últimas 4 semanas,** ¿cuánta dificultad tuvo en hacer su trabajo diario, tanto dentro como fuera de la casa, debido a su salud física?

   _____ Ninguna
   _____ Un poco
   _____ Alguna
   _____ Mucha
   _____ No pude hacer mi trabajo diario

Por favor, continua en la página que sigue…

4. ¿Cuánto dolor **<u>físico</u>** ha tenido Usted durante las **<u>últimas 4 semanas?</u>**

_____ Ningún dolor
_____ Muy poco
_____ Poco
_____ Moderato
_____ Severo
_____ Muy severo

5. Durante las **<u>últimas 4 semanas</u>**, ¿cuánta energía tuvo Usted?

_____ Muchísima
_____ Mucha
_____ Alguna
_____ Un poco
_____ Ninguna

6. Durante las **<u>últimas 4 semanas</u>**, ¿cuánto le limitaron su salud física o sus problemas emociones sus actividades sociales usuales con la familia o amigos?

_____ Nada en absoluto
_____ Muy poco
_____ Algo
_____ Mucho
_____ No pude hacer actividades sociales

7. Durante las **<u>últimas 4 semanas</u>**, ¿cuánto le han molestado sus **<u>problemas emocionales</u>** (tales como sentirse ansioso/a, deprimido/a o irritable)?

_____ Nada, en absoluto
_____ Un poco
_____ Medianamente
_____ Mucho
_____ Extremadamente

8. Durante las **<u>últimas 4 semanas</u>**, ¿cuánto le impidieron sus problemas personales o emocionales hacer su trabajo usual, los estudios u otras actividades diarias?

_____ Nada, en absoluto
_____ Muy poco
_____ Algo
_____ Mucho
_____ No pude hacer actividades diarias

Muchas gracias por cumplir este encuentro de opiniones.

Le agradecemos mucho su tiempo y buena disposición para hacerlo.

REFERENCES

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VITA

Alisha D. Adams was born on January 21, 1982 in Springfield, Missouri. She was educated in public schools across four different states including Texas, Colorado, Illinois, and Kansas. She graduated from Topeka West High School in 2000. She received an academic scholarship to Washburn University in Topeka, Kansas, where she completed bachelor's degrees in Human Services (2004) and Spanish Language (2005). She was the valedictorian of her college class and received the Sibberson Award, reflecting her status as the highest ranking senior graduate with additional community service and academic achievements.

After graduation, Ms. Adams worked for the Third Judicial District Court as the Director of Victim Services for five years. During this time, she collaborated with victims of and witnesses to homicide offenses, sexual assaults, and incidents of domestic violence.

In 2008, Ms. Adams was admitted to the University of Missouri – Kansas City graduate school program. Since her arrival, she has had the privilege to lead or co-instruct classes including Motivational Psychology, Social Psychology, Experimental Methods in Psychology, and History & Systems of Psychology. Additionally, she has completed over 1,200 hours of service at the Kansas City Free Health Clinic and Children Mercy Hospital. Upon completion of her degree requirements, she plans to continue a career in academia, while maintaining a small clinical practice.

Ms. Adams is a member of the American Psychological Association, the Association for Psychological Sciences, the International Society of Victimology, and MANA Latina leadership group.