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AN ANALYSIS OF THE SUBJECTIVE SOCIOECONOMIC SCALE AMONG HISPANIC IMMIGRANTS AND CAUCASIANS

by

Mathew Bowden

A thesis submitted to the faculty of

Brigham Young University

in partial fulfillment of the requirements for the degree of

Masters of Science

Department of Psychology

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GRADUATE COMMITTEE APPROVAL

of a thesis submitted by

Mathew G. Bowden

This thesis had been read by each member of the following graduate committee and by majority vote has been found to be satisfactory.

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As chair of the candidate's graduate committee, I have read the thesis of Mathew G. Bowden in its final form and have found that (1) its format, citations, and bibliographical style are consistent and acceptable and fulfill university and departmental style requirements; (2) its illustrative materials including figures, tables, and charts are in place; and (3) the final manuscript is satisfactory to the graduate committee and is ready for submission to the university library.

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ABSTRACT

AN ANALYSIS OF THE SUBJECTIVE SOCIOECONOMIC SCALE AMONG HISPANIC IMMIGRANTS AND CAUCASIANS

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Department of Psychology

Master of Science

Subjective socioeconomic status (SES) has previously been shown to be correlated with a large number of health measures. In this study, the subjective SES measure is modified and translated to measure childhood SES. The subjective SES scale is examined in a participant's hometown, community, and nation. Both an immigrant Hispanic and a Caucasian sample were studied (31 Hispanic males; 42 Hispanic females; 38 Caucasian males, 40 Caucasians females). Childhood SES was the most significant predictor of self-reported health in both sample groups.

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I would like to express my appreciation to my wife Christina for her long hours assisting me in the revision process and my chair Patrick Steffen for his patience with my slow progression.

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Lower social class is associated with high mortality and morbidity rates (Davey Smith, Bartley, & Blane, 1990; Townsend, Davidson, & Whitehead, 1992). Further, there is a gradient between social class and health (Adler & Ostrove, 1999). As individual wealth, educational level, and occupational prestige increase, overall health increases (Adler & Snibbe, 2003). Researchers have found that the typical social class gradient is associated with coronary heart disease (Rutledge et al., 2003), musculoskeletal impairments (Cunningham & Kelsey, 1984), and tuberculosis (Cantwell, McKenna, McCray, & Onorato, 1998) among lower social class individuals. Lower social class has also been correlated with increased rates of diabetes, obesity, and smoking (Adler, Epel, Castellazo, & Ickovic, 2000). Among civil service employees, lower social class individuals had greater amounts of days missed from work for sickness than higher social class individuals (Marmot, Feeney, Shipley, North, & Syme, 1995). Social class was inversely associated with long-term limitations on activity, amount of chronic conditions, and number of days in bed and in the hospital (Liao, McGee, Kaufman, Cao, & Cooper, 1999). In the opposite direction, higher social class individuals have higher rates of breast cancer and malignant melanoma (Adler & Ostrove, 1999). At present, most researchers acknowledge the strong relationship between social class and health. As we discover the causes behind the discrepancy in health, we will better understand possible mechanisms to reduce class differences in health.

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Theoretical relationships between social class and health

Social class has been traditionally measured using education, occupation, or total household income. These social class measurements are referred to as objective measures of socioeconomic status (SES). Individually these social class measurements have causal relationships with health. Adler and Snibbe (2003) explain that education may be linked with health because greater education is paired with greater knowledge, credentials, and social networks. They also explain that greater total household income may be linked to health by providing greater access to better housing, nutrition, and health care. A more prestigious occupation may be associated with a better health care plan leading to more visits to the doctor and more preventive medicine.

There are other links between health and SES which are described by Adler and Snibbe (2003). In their theoretical model, Adler and Snibbe explain that SES is linked to health through physical responses to the environment and psychological responses to the environment and the experience of SES. They explain that low social class is associated with poor environmental living conditions which increase exposure to carcinogens, pathogens, and injury. They also explain that low social class is related to biological responses resulting from exposure to acute and chronic stressors. These stressors can alter blood pressure, body weight, cholesterol levels, cortisol levels, and epinephrine levels. They point out that lower SES is correlated with health relevant behaviors such as smoking, sedentary lifestyle, and high fat diets.

Although many researchers continue to use the traditional methods of measuring SES, a growing trend is for them to use a subjective measure of SES. Subjective SES has been shown to be more powerfully correlated with health than other traditional measures

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of SES (Adler et al., 2000; Operario, Adler, & Williams, 2004; Ostrove, Adler, Kuppermann, & Washington, 2000; Singh-Manoux, Adler, & Marmot, 2003). Further, subjective SES incorporates the participants' perceptions of their social class. Perception has been cited by Folkman and Lazarus (1988) as an important aspect to understanding the power of stress to influence health. In their two-part stress coping model, they describe how an individual's appraisal determines the potential for harmful effects of stress. Only a subjective SES measure would contain this appraisal. Other measurements of SES rely on previous research and national standards for quantification. For example, education is usually measured by using total years in school. Occupation is measured based on categories such as blue collar or white collar. Total household income is usually measured as the total annual income earned by all members of a household.

Another growing trend is for researchers to examine childhood SES. They have verified that lower social class in childhood is correlated with poorer health in adulthood (Luo & Waite, 2005; Poulton et al, 2002; Regidor, Banegas, Guteirrez-Fisac, Dominguez, & Rodriguez-Artalejo, 2004). There are multiple explanations for this relationship. One possible explanation is there may be specific health behaviors learned in childhood which frame our future health behaviors. Another possible explanation is there may be certain coping skills learned in childhood which are repeated in adulthood. Childhood SES has been correlated with body mass (Poulton et al., 2002), systolic blood pressure (Poulton et al, 2002), alcohol dependence (Poulton et al., 2002), self-rated health (Luo & Waite, 2005), and depression (Luo & Waite, 2005).

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Current study

In the current study, the subjective SES scale developed by Adler et al. (2000) is modified to examine childhood subjective SES as it relates to adult health. Studies of childhood SES have shown it to be a distinct predictor of adult health over adult SES (Regidor, Banegas, Guteirrez-Fisac, Dominguez, & Rodriguez-Artalejo, 2004). Researchers have found this trend when examining self-reported health (Luo & Waite, 2005), hypertension (Regidor et al., 2004), and body mass (Poulton et al., 2000).

Whenever any new scale is introduced or an old scale is modified, it must be examined to determine whether it is measuring what it is proposed to measure, otherwise know as construct validity. In this study, hometown subjective SES is proposed to be a measure of childhood SES. Both community and nation subjective SES are proposed to be measures of adult SES. In order to examine construct validity, the modified scales are compared to traditional measures of SES which are education, total household income, and occupation. In addition, childhood, community, and nation subjective SES should be significantly correlated with each other. Finally, both childhood and community subjective SES ratings should be predictive of health measures. This prediction is hypothesized because these health measures have previously been shown to be predicted by the original subjective SES scale.

Childhood SES

In multiple studies, researchers studying childhood SES have used a variety of methods for quantifying childhood and adult SES. In a longitudinal study of 1000 New Zealand children from birth to 26 years, Poulton et al. (2002) found that low childhood SES was correlated with higher body mass, waist-hip ratio, systolic blood pressure, poor

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cardiorespiratory fitness, and alcohol dependence. This relationship did not change regardless of adult socioeconomic status. They also found that childhood SES was the sole predictor of body mass. In addition, they found that low cardio-respiratory health was associated with both low adult SES and low childhood SES. They also found that upward mobility was associated with low waist-hip ratio. Downward mobility was associated with poor cardiorespiratory fitness. These researchers assessed childhood and adult SES by assessing participants' parents' occupations for childhood SES. Poulton et al. took the average of the highest SES level of each parent assessed with seven measurements at different ages of the child. Current occupation was used to quantify current SES. To measure childhood SES, Poulton et al. placed individuals into SES categories based on occupation and data from the New Zealand census.

In another study, Luo and Waite (2005) found that in approximately 19,000 individuals over 50 years of age, low childhood SES was associated with worse health outcomes in later life. Luo and Waite showed that this effect could be reduced if individuals move upward in social status during adulthood. On the other end, their study found that high childhood SES was associated with higher self-rated health, lower functional limitations, fewer chronic conditions, fewer depressive symptoms, higher self-rated memory, and higher cognitive functioning scores. Their sample was composed of Caucasians, Blacks, and Hispanics. They quantified childhood SES by assessing each participant's father's occupation. In addition, they asked the participants to rate their satisfaction with their financial situation during their childhood using a three point scale.

In a study conducted in Spain, Regidor, Banegas, Gutierrez-Fisac, Dominguez, and Rodriguez-Artalejo (2004) found that in men, belonging to the working class during

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childhood was associated with an increased likelihood of hypertension, having smoked, and heavy alcohol intake. This relationship was independent of adult social class in men. In women, Regidor et al. found that belonging to the working class during childhood was associated in adulthood with greater obesity, diabetes mellitus, and physical inactivity. By adjusting for adult social class in the female sample group, the statistical relationship between childhood SES and obesity, diabetes, and physical inactivity was not signficant. In men and women, they found that mean height increased with individual childhood social class. Regidor et al. quantified childhood SES by placing individuals in four categories based on the participant's father's occupation.

Though indicative of important relationships between health and SES, these three studies do not adequately explore the potential contribution of subjective SES. Poulton et al. (2002) used objective SES as a measure of childhood SES by quantifying SES by the father's occupation. Although Luo and Waite (2005) used a subjective measure of SES, it only included three categories, limiting the participant's range of response. Regidor et al. (2004) determined the participant's childhood SES instead of allowing the participant to determine his or her own childhood SES. Participants' ratings of their SES have been shown to be a more powerful predictor of health than objective SES in certain groups. The current study will explore the subjective SES scale's use in studying childhood SES.

An additional goal of the current study is to investigate childhood SES in Hispanic immigrants. Hispanic immigrants pose a unique theoretical challenge to current perspectives on socioeconomic status. When Hispanic immigrants as a whole are compared with the national averages for income, they have lower income than non-Hispanic Whites (DeNavas-Walt, Proctor, & Lee, 2006). According to the current

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paradigm of lower SES being correlated with poorer health, Hispanic immigrants should have poorer health than U.S. born Hispanics and Caucasians. However, this is not what has been observed. Hispanic immigrants have lower rates of hypertension (Haffner, 1996; Haffner, Gonzalez, Hazuda, Valdez, Mykkänen, & Stern, 1994; Winkleby & Ahn, 1998), diabetes (Haffner, 1996) and coronary heart disease (Sundquist & Winkleby, 1999). Hispanic immigrants have lower rates of mental health than U.S. born Hispanics (Escobar, Nervi, & Gara, 2000). Escobar, Nervi, and Gara describe this trend as occurring across multiple mental health measures such as lifetime diagnosis of major depression, obsessive-compulsive disorder, antisocial personality disorder, anxiety disorders, or substance abuse and dependence. One of the conclusions that Escobar, Nervi, and Garza make is that as immigrants acculturate and spend more time in the U.S., the prevelance of disorders increases.

The current study explores the SES transition Hispanic immigrants experience when they move from their nation of origin to the United States. In this study, immigrants are asked to compare their pre-migratory SES (childhood SES) to their current SES. Only a subjective SES scale can adequately capture the immigrant SES transition. The traditional forms of measuring SES are not easily compared between immigrants' nation of origin and the U.S. Educational levels are not easily compared because other nations have differing testing and certification standards than the U.S. Total household income is not easily compared because other currencies would need to be converted into U.S. dollars. Further this conversion would need to be transformed into a way of examining access to resources, standard of living, etc. Occupational prestige is not easily compared between the nation of origin and the U.S. because each occupation

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has a different prestige based on the nation from which the immigrant is coming. A subjective assessment by the immigrant would capture the comparison without the research-intensive and unprofitable objective SES comparison.

In the current study, SES is compared with multiple measurements of health. Not all health measurements are as important as others for predicting morbidity and mortality. Researchers have found that the self-reported health (Bailis, Segall, & Chipperfield, 2003) and body mass (Flegal, 2005) have been directly related to morbidity and mortality rates. Further, body mass has been shown to be predicted by childhood SES (Poulton et al., 2002). Other health measurements to consider are blood pressure, pulse, perceived stress, sleep quality, optimism, perceived control and self-reported mental health. Each of these health measurements has been found to be related to SES. High body mass, low optimism, high perceived stress, low perceived control, higher pulse rate, and poor sleep quality were correlated with low subjective SES (Adler et al., 2000). Low self-reported general health was correlated with low subjective SES (Singh-Manoux et al., 2003). High blood pressure and low self-reported general health were correlated with low subjective SES (Operario et al., 2004).

Current hypotheses

The main objective of the current study is to examine the relationship between childhood subjective SES and health in Hispanic immigrants and Caucasians. These are the hypotheses of this study:

I. Childhood subjective SES will be more predictive of self-reported health, and body mass than community subjective SES in Hispanic immigrants and Caucasians.

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II. Childhood subjective SES and community subjective SES will be more powerful predictors of health measures than objective SES. The health measures being examined are blood pressure, pulse, body mass, sleep quality, perceived stress, optimism, and all factors of the Moss 36-item short-form health survey (SF-36)

III. The Spanish and English versions of the childhood SES scale will be correlated with the objective measures of SES

Method

The first phase of the study was to translate questionnaires and demographic questions from English into Spanish. Scales not included in the translation process had already been translated and verified for reliability and validity. The second phase of the study was to test a community sample of both immigrant Hispanics and Caucasians on SES and health measures.

Phase I

Participants

To assure an accurate translation, translators were selected based on their knowledge of Hispanic culture and fluency. Four individuals fluent in English and Spanish were recruited. Two of these individuals were native English speakers and two were native Spanish speakers. The native English speakers had passed an upper level Spanish course with an A- or better. The native Spanish speakers had passed an upper level English course with an A-or better. In addition, the two native English speakers had both spent over a year and a half living within the Spanish culture on church missions.

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Method

The native English speakers translated the following measures: the consent form, the demographic questionnaire, MacArthur Midlife Survey question (Lachman & Weaver, 1998), and the Pittsburgh Sleep Quality Index (Buysse, Reynolds, Monk, Berman, and Kupfer, 1989). See Appendix 1 for the English scales and Appendix 2 for the translated scales. The native Spanish speakers then translated these measures back into English. After all translations were completed, the group met to compare the translations. As a group, they made changes to the Spanish translation based on the comparison of the original English version and the back-translated English version. This group used their cultural and language proficiency to choose the translated passages which best conveyed the intent of the English measures.

Spanish translation

In the current study, approximately one-half of the participants are Hispanic immigrants. In order to increase the comprehension of these participants, some of the measures were translated into Spanish. The measures that were not translated had been previously translated and validated. There are a variety of methods to assure an accurate translation. In this study, the back translation method was used. Back-translation involves having the original measure translated into the language of choice. This translation is then back-translated into the language of the original measure. The back translation is then compared to the original measure. Modifications of the translation are made as needed assuring that the intent of the original questions is maintained. The key issue of this translation method is the acknowledgement that some concepts may not meaningfully translate into other languages. A way of verifying the accuracy of a

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translated scale is by internal reliability analysis and principal component analysis. The translated measure should have high internal reliability. It should also have the same number of components as the original scale. This means that similar groupings of questions should be found in both language versions of the scales.

Phase II

Participants

Participants for this study were selected from the surrounding community (151 total; 31 Hispanic males; 42 Hispanic females; 38 Caucasian males, 40 Caucasian females). The average age for the Caucasians was 35.3% +/- 11.8 years. The average age for the Hispanic immigrant sample was 37.3 +/- 9.8 years. These two samples were highly educated. Greater than 50% of both groups had high school diplomas. The Hispanic sample had 68.5% with a high school diploma or equivalent and 21.9% with a Bachelor's degree. In the Caucasian sample, there are 98.7% of the sample with a high school diploma and 53.8% with a Bachelor's degree or higher. There was a difference in the average salary of the Hispanic immigrant group and the Caucasian group. The average salary was $26,451 +/- $17,158 for the Hispanic immigrant participants and $55,581 +/- 41,545 for the Caucasian participants. The majority of the Hispanic immigrant and Caucasian sample were married or living with a significant other (71.2% for the Hispanic sample; 75.6% for the Caucasian sample). In addition, the majority of both groups attended a church (89% of the Hispanic sample and 97.4% of the Caucasian sample). Refer to Table 1 and 2 for additional demographical information.

The Hispanic group had some characteristics that only pertain to them and not the Caucasian sample. The largest group of the Hispanic immigrants reported that they were

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born in Mexico (42). Hispanic immigrants also reported that their nation of origin was Argentina (5), Ecuador (11), El Salvador (4), Guatemala (1), Nicaragua (1), Panama (1), Peru (5), Uruguay (1), and Venuezuala (2). The average number of years that Hispanic immigrant participants had been in the United States was 9 years with a standard deviation of 7.4 years. The majority of the Hispanic sample chose to complete the questionnaire in Spanish (62 participants).

Participants were verbally asked to voluntarily participate in the study as well as given a consent form identifying their right to withdraw from the study at any time. Hispanic immigrants were recruited through English as a Second Language (ESL) classes, community health fairs, and by word of mouth. Caucasian participants were recruited by word of mouth and through community health fairs. Participants received their choice of a candy bar as compensation for their participation.

Data from the participants was gathered from 2003 to 2006. About 16 of the 167 participants (9.6 %) who were given the questionnaire packet failed to return it. These individuals were contacted in the same manner as the other individuals. Most likely, there were no demographical differences between the individuals lost by attrition and the individuals who completed the questionnaires. The majority of this attrition was due to individuals attending ESL classes one time and then not returning.

Measurement scales

The following measures were used in this study: the Pittsburgh Sleep Quality Index (Buysse et al., 1989), one item from the Perceived control over life questionnaire from the MacArthur Midlife Survey (Lachman & Weaver, 1998), the Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983), the Moss 36 item Short Form health

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survey (Ware and Sherbourne, 1992), LOT-R (Scheier, Carver, & Bridges,1994), and Adler et al.'s (2000) subjective SES scale. Each of these measures has been correlated with SES in other studies, except for the SF-36. The SF-36 was included because it is a commonly used overall measure of health.

Objective Socioeconomic Status

As previously stated, education, occupation, and total household income are the most commonly used objective SES measures. In this study, the objective measures of SES were compared to the subjective measures of SES. Higher objective SES is usually associated with better health. The three measures of objective SES were quantified in the following manner: Objective total income was evaluated by total household annual income; Objective occupation status was evaluated by using the Duncan's socioeconomic index (SEI) as listed by Davis and Smith (1999); Objective education was measured by total years in school. All three of these methods of quantifying SES are commonly used to measure social status.

Self-reported health measure

The scale used in this study to measure self-reported health was the Moss 36-item short-form health survey (SF-36). Ware and Sherbourne (1992) designed the SF-36 for use in clinical practice and research. This survey addresses eight health concepts: 1) limitations in physical activities (PF); 2) limitations in social activities (SF); 3) limitations in performing role-related activities due to physical health problems (RP); 4) bodily pain (BP); 5) general mental health (MH); 6) limitations in performing role-related activities due to mental health problems (RE); 7) vitality (VT); and 8) general health perceptions (GH). In addition, Ware and Sherbourne created a summarized mental and

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physical health score. Their survey was designed so that high scores reflect better health. Researchers have found that self-rated assessments of health are correlated with an individual's predicted mortality (Idler & Angel, 1990; Idler & Benyamini, 1997; Mossey & Shapiro, 1982). The SF-36 was tested on 22,462 patients in Boston, MA; Chicago, IL; and Los Angeles, CA. 4,862 of these patients were tested for test-retest reliability (McHorney, Ware, Lu, & Sherbourne, 1994). McHorney et al. found that reliability coefficients ranged from .65 to .94 across scales. The Spanish version of the SF-36 has Cronbach's alpha coefficients above 0.75 for each scale except for one (Social Functioning, alpha = 0.55).

Body fat Measure

As previously stated, body mass is an important measure of health and has been correlated with childhood social status (Poulton et al., 2002). In this study, participants were asked to report their weight and height. Their data was used to compute their Body Mass Index (BMI). BMI is computed by converting a participant's weight to kilograms and their height to meters. After this conversion, the squared height is divided by the weight (m^2/kg). Higher BMI scores indicate greater obesity.

Sleep assessed by Pittsburgh Sleep Quality Index

Sleep quality has been linked to subjective SES (Adler et al., 2000). Often times, other disorders such as depression, anxiety, stress will manifest themselves in poor sleep quality. Buysse et al. (1989) designed the Pittsburgh Sleep Quality Index (PSQI) to assess sleep quality and sleep-onset. High scores on both factors indicate poor sleep. There are seven components of the PSQI which are sleep latency, sleep duration, habitual sleep efficiency, use of sleep medication, sleep quality, sleep disturbance, and daytime

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dysfunction. Backhaus, Junghanns, Broocks, Riemann, and Hohagen (2002) tested the reliability and validity of the PSQI on 135 participants (80 were insomnia patients, 45 in a control group). In their study, the Cronbach's alpha for all of the items was .85. The test-retest reliability at 45 to 63 days was .85.

Blood Pressure and heart rate

A common health measurement is blood pressure. This was measured by using an automatic blood pressure cuff. Higher systolic and diastolic blood pressure indicates poorer health. The following two types of blood pressure monitors were used: Reli On automatic blood pressure monitor model HEM-780REL; and the Omron digital blood pressure monitor model HEM-712C. They were selected based on their portability and economy. Resting heart rate was measured at the same time by the same machines. Before measuring blood pressure and pulse, participants needed to have not exercised strenuously in the 15 minutes before the measurement.

Perceived Stress Scale

A measure of perceived stress levels was included in this study because of the assumption that lower social class individuals experience a greater amount of stress than higher social class individuals as explained by Krieger, Rowley, Herman, Avery, and Phillips (1993). Cohen et al. (1983) designed the Perceived Stress Scale (PSS) to measure the degree to which situations in life are viewed as stressful. The PSS has been correlated with life-event scores, depressive and physical symptomatology, utilization of health services, and social anxiety. The PSS is a 14-item scale with five choices. For example, questions on the PSS address how often in the last month individuals have felt angry, overwhelmed, and anxious. The individual item score are summed for a total

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overall score. Higher scores indicate a higher amount of stress. The PSS was originally tested among 332 freshman college students. The coefficient alpha reliability was .84. The test-retest reliability was .85.

Pessimism and optimism measurement

A measure of optimism was included in this study because optimism has been previously shown to be related to SES (Adler et al., 2000). Scheier and Carver (1985) developed the Life Orientation Test to measure dispositional optimism. This scale was revised in 1994 to improve the wording of some of the items to better relate to optimism (Scheier et al., 1994). The scale consists of ten items with four distracter items. Items include questions about enjoyment of relationships with others, and hoping that things will turn out well. Respondents are asked to indicate their level of agreement with each item on a five-point scale. The scale is coded so that a higher score means a more optimistic view on life. The scale ranges from 0 to 24. The Cronbach's alpha was .78 (n = 2055) and the test-retest reliability was .79 when participants were tested 28 months later (n = 21). Perczek, Carver, Price, and Pozo-Kaderman (2000) found that the Spanish version of this scale had an internal reliability coefficient of .79. Further they found that the Spanish version was correlated with the English version (r (140) =.78, $p<.01$). In addition, they found that the LOT-R for both versions should be interpreted as one measure through factor analysis.

Perceived control over life from MacArthur Midlife Survey

Perceived control has also been shown to be related to socioeconomic status (Adler et al., 2000). Most likely individuals in lower paying jobs have a lower degree of control over their lives. Lachman and Weaver (1998) formulated a perceived control

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scale for the MacArthur Midlife Survey. Participants select on an 11-point rating scale for each domain where 0 was no control and 10 was very much control over life. Higher control is usually associated with better health. To reduce the amount of questions that participants answered, only one item was used from this questionnaire. This same question was used by Adler et al. (2000) in their study of the relationship between the subjective SES measure and health. This question is "how would you rate the amount of control you have over your life overall these days?"

Procedure

Participants were given a packet of questionnaires to complete. Hispanic immigrant participants were given the option of completing the questionnaires in Spanish or English. Eleven of the Hispanic immigrants chose to complete the questionnaires in English. The other 62 completed the questionnaires in Spanish. As previously stated, the following questionnaires were included in this packet: PSQI (Buysse et al., 1989), objective measures of SES, one item from the Perceived control over life questionnaire from the MacArthur Midlife Survey (Lachman & Weaver, 1998), the Perceived Stress Scale (Cohen et al., 1983), the Short Form-36 (Ware and Sherbourne, 1992), the LOT-R (Scheier et al., 1994), and Adler et al's (2000) subjective SES scale. In addition, this packet included the consent form, and a demographic questionnaire. Either before or after the completion of the packet, participants were measured for their heart rate and blood pressure. Participants were required to have not exerted themselves for 15 minutes prior to the blood pressure measurement. For completing the study, participants were offered a choice of candy bars. Most participants completed the questionnaires in 30 minutes.

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Results

Design & Statistics for Data analysis

The primary hypothesis was that childhood subjective SES would be the most powerful predictor of self-reported health and body mass over community and nation subjective SES and objective SES. In order to test this hypothesis, multiple correlation analyses were run using SPSS 12.0 statistical software. To analyze the data, the three objective SES scales of education, occupation, and total income were combined into a summarized objective SES score. This was accomplished by converting educational years, total income, and the occupational coding into z-scores. The three z-scores were then averaged to come up with one single measure of objective SES. This makes theoretical sense in that each participant is asked in the subjective scales to summarize their education, occupation, and total income in comparison with other individuals. Therefore, only a combined objective SES scale could be adequately compared to this subjective SES scale. Adler et al. (2000) in their subjective and objective SES comparison study also combined their three measures of objective SES into one composite score.

Translation results

In this study, two complete scales were translated for the analyses. These are the Perceived Stress Scale (Cohen et al., 1983), and the Pittsburgh Sleep Quality Index (Buysse et al., 1989). Each of these scales was tested for internal reliability. In addition, principle component analysis was used to compare the English and Spanish versions for consistency of factors on the LOT-R and the Pittsburgh Sleep Quality Index (PSQI). Unfortunately, there were not enough Hispanic immigrants that completed the English

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version of the questionnaire packet to adequately compare with the Spanish version completed by Hispanic immigrants (11 English questionnaires vs. 62 Spanish questionnaires). Instead, the completed English version in the Caucasians was compared with the completed Spanish version in the Hispanics. Any inconsistencies in the component distribution may be attributed to cultural differences in health.

The English and the Spanish version of the Perceived Stress scale had medium internal reliability (Cronbach's alpha = .773 and .671, respectively). Medium reliability is determined by 0.70 or greater (Cronbach, 1951). Although the Spanish version did not have a high internal reliability coefficient, it is important to consider that this is a small sample size. With a small sample size, an alpha level close to .700 is still remarkable. Theoretically, the questions in Perceived Stress Scale all measure stress. Therefore, it is not necessary to conduct principle component analysis.

The English and the Spanish version of the Pittsburgh Sleep Quality Index had low internal reliability (Cronbach's alpha = .536 and .655, respectively). Principle component analysis yields three components for the Spanish version and two components for the English version (refer to Table 3 and 4). In the English version, sleep latency, sleep duration, habitual sleep efficiency and use of sleep medication (components 2, 3, 4, and 6) grouped together and sleep quality, sleep disturbance, and daytime dysfunction (components 1, 5, and 7) grouped together. In the Spanish version, sleep latency, sleep disturbance, and use of sleep medication (components 2, 5, and 6) grouped together, sleep duration and habitual sleep efficiency (3 and 4) grouped together, and sleep quality and daytime dysfunction (1 and 7) grouped together. In other words, sleep duration,

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habitual sleep efficiency and sleep disturbance (components 3, 4, and 5) did not follow the same grouping patterns between the two ethnic groups.

Although the LOT-R was not translated for this study, I did run principle component analysis and investigated the internal reliability to verify that it was matching previous research results. The English version of the LOT-R had high internal reliability (Cronbach's alpha = .782) while the Spanish version had low internal reliability (Cronbach's alpha = .524). Principle component analysis yielded similar groupings for the two scales (refer to Table 5 and 6). Namely, questions 3, 7, and 9 grouped together as the first component in both versions of the scale. Likewise, questions 1 and 4 also grouped together as the second component. Scheier et al. (1994) observed two similar component groupings in the English version of the LOT-R. The two components grouped according to the positively worded optimism questions and negatively worded optimism statements. The exception to the expected groupings is question 10 in the Caucasian group. Question 10 should have grouped with the positive components if it matched Scheier et al's results. However, it grouped with the negative components instead. Question 10 of the LOT-R asks participants about whether they believe that more good things than bad things are going to happen. Participants could agree with the statement, partially not agree, not agree, partially agree, or completely agree. To agree would be to have an optimistic outlook. To disagree would be to have a negative outlook. According to Scheier et al.'s previous results, Caucasian participants should have rated the last question with the rest of the positively worded questions. Perczek et al. (2000) described the items of the Spanish version of the LOT-R grouping together on one factor. However, Perczek et al. had a sample of bilingual participants who were

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given both the Spanish and English version of the LOT-R. The current study's sample was composed of Hispanic immigrants that may not be as familiar with the format of the LOT-R.

The English and the Spanish version of the Short-Form 36 had medium internal reliability (Cronbach's alpha = .755 and .797, respectively). As previously mentioned in the description of the scales, the SF-36 has already been tested for reliability and validity. Therefore, there is no need to analyze the principle component structure. No internal reliability analysis was run on the perceived control over life questionnaire because it only had one item.

Hypotheses I: Childhood subjective SES will be more predictive of self-reported health and body mass than community subjective SES in Hispanic immigrants and Caucasians.

In order to test this hypothesis, a linear multiple regression analysis was used. The first hypothesis was supported in the Hispanic immigrant sample. That is that childhood subjective SES would be more predictive of self-reported health, and body mass than community subjective SES. Using a stepwise regression analysis, the results indicate that childhood subjective SES was the sole significant predictor of self-reported health (B = .436; adjusted r^2=.178, p<.001) and body mass (B = -.248; adjusted r^2=.048, p = .039).

The first hypothesis was supported in the Caucasian sample for predicting self-reported health. In the Caucasian sample, childhood subjective SES predicted self-reported health over the other measures of SES (B = .261; adjusted r^2 = .056, p=.021). Body mass was predicted by childhood subjective SES over the other measures of SES (B = -.228; adjusted r^2 = .039, p = .045). However, there is a potential problem with the data set. The data for the Caucasian sample was not normally distributed. In order to account

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for this lack of normality, the data was converted to taking the natural log of each item. The converted data was then used in the multiple regression model as a measure of body mass. This conversion passed the Lillefor significance correction for being a boundary of true significance using the Kolmogorov-Smirnov test for normality. After the data was converted, the results indicate that childhood subjective SES predicted body mass over other measures of SES (B = -.223; adjusted r^2 = .037, p = .050). In addition, another model was significant. Childhood subjective SES (B = -.352, p = .007) and Nation subjective SES (B = .225, p = .049) were predictive of body mass over the other measures of SES where childhood subjective SES is first in the model (adjusted r^2 = .074).

Hypotheses 2: Childhood subjective SES and community subjective SES will be more powerful predictors of health measures than objective SES. The health measures being examined are blood pressure, pulse, body mass, sleep quality, perceived stress, optimism, and all factors of the Moss 36-item short-form health survey (SF-36)

In order to test this hypothesis, I ran multiple linear regression analyses to assertain whether the measures of SES predicted the different health measures. In the Hispanic immigrant sample, the second hypothesis was only supported for some of the health measures. Childhood subjective SES was the sole predictor of mental health (B = .283; adjusted r^2 = .067, p = .017). Mental health was one of the subscales of the SF-36. Objective SES was the sole significant predictor of optimism (B = .315; adjusted r^2 = .085, p = .010) and vitality (B = -.295; adjusted r^2 = .073, p = .013). Vitality was also one of the subscales of the SF-36. Refer to Table 7 for a summary of the regression models. The other health measures were not significantly predicted by any of the SES measures.

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In the Caucasian sample, the second hypothesis was supported in some of the health measures. Using stepwise regression analysis, the results indicate that both childhood and community subjective SES were significant predictors of perceived stress, and self-reported health. Community subjective SES was the best predictor of perceived stress (B = -.320; adjusted r^2 = .090, p = .005), perceived control (B = .227; adjusted r^2 = .039, p = .050), and optimism (B = .294; adjusted r^2 = .075, p = .009) over childhood subjective SES and objective SES. Refer to Table 8 for a summary of the regression models for the Caucasian sample.

Two of the variables were not found to be significantly correlated with any of the social status measures. These variables were blood pressure and pulse. In addition, multiple items from the SF-36 were not found to be significantly correlated with any of the measures of social status. These include measurements of limitations in physical activities (PF); limitations in social activities (SF); limitations in performing role-related activities due to physical health problems (RP); bodily pain (BP); and limitations in performing role-related activities due to mental health problems (RE).

Hypotheses 3: The Spanish and English versions of the childhood SES scale will be correlated with the objective measures of SES

To analyze this hypothesis, I used Pearson correlations for the comparison of each the different SES scales. The third hypothesis was partially supported in the Hispanic immigrant sample and fully supported in the Caucasian sample. Summarized objective and subjective SES measures were significantly correlated with each other in both sample groups ($p < .05$). These correlations can be observed in Tables 9 and 10. The only

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exception to this hypothesis was that in the Hispanic sample, nation subjective SES was not significantly correlated with the summarized objective SES scale.

Discussion

The first hypothesis was that childhood subjective SES as measured by the childhood subjective SES scale would be a better predictor of self-reported health and body mass than community subjective SES. In the Hispanic immigrant and Caucasian group, childhood subjective SES was the more powerful predictor of self-reported health and body mass. Poulton et al. (2002) found that body mass was predicted by childhood SES. Luo and Waite (2005) found that self-reported health was predicted by childhood SES.

The second hypothesis was that childhood and community subjective SES would be better predictors of blood pressure, pulse, body mass, sleep quality, perceived stress, optimism, and all factors of the Standard Form-36 (SF-36) than objective SES. In the Hispanic sample contrary to the second hypothesis, objective SES was the sole predictor of optimism and vitality. The direction of the relationship between vitality and SES is opposite of what might be expected. What would be expected is that higher SES individuals should report higher vitality than lower SES individuals because higher SES is usually associated with better health. In this study, higher SES individuals reported feeling less vitality than lower SES individuals. This may be due to higher SES individuals working more hours to have more money. In addition, higher SES individuals may have occupations that have a greater amount of responsibility and consequently more stress. Higher amounts of stress would lead to feeling less vitality.

In the Caucasian group, the second hypothesis was supported in this study for some of the health measures. Community subjective SES was the sole predictor of perceived

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stress, perceived control, and optimism. This makes theoretical sense in that stress levels, control levels, and optimism are closer tied to current conditions rather than childhood conditions. As previously observed in other studies involving childhood SES, childhood SES was the most significant predictor of self-reported health in Caucasians.

The third hypothesis was that each subjective SES scale would be correlated with objective SES. In the Caucasian sample, all three subjective SES measures were significantly correlated with objective SES. In the Hispanic sample, childhood and community subjective SES were significantly correlated with objective SES. However in the Hispanic sample, nation subjective SES was not significantly correlated with objective SES. A possible explanation for this unexpected result is that the original studies with the subjective SES scale did not ask participants to distinguish between childhood, community and nation subjective SES (Adler et al., 2000, Operario et al., 2004, Ostrove et al., 2000, Singh-Manoux et al., 2003). Instead, they were given one measure of subjective SES. The contrast may have altered the responses. Most likely, nation subjective SES is related to stereotypes portrayed by the media, whereas community subjective SES is tied to personally experienced and observed SES comparison.

The results of this research project have definite implications for future research in health psychology. This study measured childhood SES by a new method. This way of measuring childhood SES may better capture the cognitive effect of childhood social class on later health. The scale may serve as a way of summarizing multiple years of social class into one measure instead of having to track objective SES changes over the duration of childhood. More studies need to be conducted to validate its use as a measure

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of childhood SES. At the same time, this study's results are supportive of its further use. The results indicate that childhood subjective SES scale was correlated with multiple measures of health as well as with the community subjective SES scale. Further, this scale was a predictor of self-reported health in both the Caucasian and the Hispanic immigrant samples without community subjective SES being included in the model.

This scale can be used with Hispanic immigrants to examine the SES transition from their nation of origin to the United States. The scale has never been used to study exclusively Hispanic immigrants. The traditional measures of SES which are education, total income, and occupation are difficult to compare between nation of origin and the United States. For example if a doctor from Mexico immigrates to the United States, he or she most likely will not be able to practice medicine without further education and training. In Mexico, he or she had high social status as a doctor which could be measured by his or her education, occupational status, and total income as compared to other Mexican citizens. However in the U.S., even if this doctor was able to practice medicine, he or she would have a different occupational prestige than someone who received education and training in the U.S. Further, total income is difficult to compare between the two nations. Although we can convert pesos to dollars and compare them, there is a standard of living difference between Mexico and the United States. The dollar to peso conversion does not take this into account. These are the same issues that researchers would face when comparing between any two nations with differing economies.

The results of the current study are similar to results of other validation studies. Three validation studies of the subjective SES scale are presented in Table 11 and compared to the results of the current study. The correlation directions are the same

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between Adler et al.'s (2000) subjective SES study and the current study on all the health constructs used in both studies. These similar health constructs are physical health, BMI, sleep quality, systolic blood pressure, subjective stress, pessimism, and control over life. In Table 12, three validation studies of the subjective SES scale are compared to the current study. The listed correlations between subjective SES and education, occupation, and total household income of the current study match the same direction as three past studies conducted by Singh-Manoux et al. (2003), Operario et al. (2004) and Hu, Adler, Goldman, Weinstein, and Seeman (2003) on the subjective SES scale. In addition, all correlations between objective and subjective SES are significant which matches the results of the other three studies ($p < .05$).

Explanation of unexpected results

In this study, some of the expected correlations between SES and health measures such as blood pressure, heart rate, and some of the health questions from the SF-36 were not significant. The lack of significant correlation to some of the health measures may be due to the small sample size. Another important issue to consider is the R-squared value. The overall R-square values from the regression models were very small for both samples. The majority of the coefficients of determination were below .10. These small effects of the subjective SES scales indicate that the multiple regression predictive models are not very powerful, even though they are significant. A key issue involved with measuring blood pressure and heart rate from portable devices is that one cuff was used to fit all participants. Other blood pressure devices have variability in size for each participant's arm size. A future improvement in measuring blood pressure would to use a manual blood pressure cuff which gives a more accurate measurement as long as the

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person administering it is well trained. Another reason for a lack of correlation between SES and health is that some of the questions from the SF-36 have not been shown to be correlated with SES in other health studies. Therefore, it is not as surpising that they were not correlated with SES in this study. However, the items were included in this study because they were part of the SF-36 which is one of the best measurements of overall health available.

Limitations

There are some limitations to the generalizability of this study. As previously mentioned the Hispanic immigrant sample and Caucasian sample were more educated than the national averages. According to the SES gradient, a more educated individual should have better health than the rest of the U.S. There are also some issues with the representativeness of the extremely high income groups. The quartile divisions of the Caucasian group were as follows: 1st quartile was between 0 and $30,000; 2nd quartile was between $30,000 and $44,500; 3rd quartile was between $44,500 and $68,750; 4th quartile was between $68,750 and $175,000. The quartile divisions of the Hispanic immigrant group were as follows: 1st quartile was between 0 and $18,000; 2nd quartile was between $18,000 and $24,000; 3rd quartile was between $24,000 and $32,000; 4th quartile was between $32,000 and $120,000. In other words, the effects of extreme wealth may not be adequately shown in these sample groups.

In this study, participants were not divided into gender for the purpose of analysis due to the small number of participants in gender specific categories. There may be some important differences in how women and men perceive their subjective SES that are not addressed in this study. An additional issue of gender is described by Baxter (1994).

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Baxter suggests that some women may classify their social status based on her spouse's occupation rather than her own occupation. There is no guide as to when to use the spousal occupation or the individual occupation as a marker of SES. In this study, objective SES scores were computed on personal occupation and education rather than by a significant other's occupation or education.

The older age and total years in country of the Hispanic immigrant sample may indicate that the immigrants are more familiar with health questionnaires. The Hispanic immigrant sample on average had been in the country a little over 9 years. More time in the country in usually associated with increased acculturation and better paying jobs. Further, more time in the country could be associated with greater English fluency. The average age of the Hispanic immigrant sample was 37 years old. The older age paired with greater acculturation and English fluency could indicate that this sample is more likely to have stable occupations, greater income, and stable housing than recently immigrated individuals.

A large percentage of both samples claimed membership in a church and were married. Religiosity has been associated with better health than non-religiosity (Seeman, Dubin, & Seeman, 2003). Higher quality marriages have also been associated with lower self-reported health (Kiecolt-Glaser & Newton, 2001). In other words, this sample may be healthier than the average Hispanic immigrant and Caucasian. Marriage may also be linked to greater household income. The combined income of the two individuals would be greater than a situation where only one individual worked. There is a chance that married couples had children living at home or other individuals that depend on the incoming salary for sustenance. This study did not ask participants to indicate how many

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individuals were living off of the salary. Therefore, the total household salary may not adequately capture the health benefit due to higher salary. In addition, children may bring additional stress to the family. This would be demonstrated by poorer health.

In the Hispanic sample, there were two immigrants who had greater than 30 years in the country. These two individuals would likely be more highly acculturated and as such have poorer health but also a greater salary. In addition, they would be older than the average participant. These two individuals would most likely have worse health, because higher acculturation and time in the country is associated with poorer health (Escobar et al., 2000).

This is not a randomized sample. The majority of the participants were recruited by word of mouth. In addition, some of the participants were recruited through ESL classes and health fairs. Individuals attending health fairs and ESL classes are most likely motivated to improve themselves. As previously stated, higher optimism is linked to higher SES in the literature (Adler et al., 2000). In other words with this sample, conclusions concerning optimism may be unrepresentative of the general U.S. population.

This study involved the use of a Spanish translation of multiple measurements of health. This was advantageous because the primary language of the Hispanic immigrant sample is Spanish. By using the translated health measures, the Hispanic immigrants most likely were able to better comprehend the questionnaires. However, the translations also were a limitation to the study. The LOT-R, PSS, and PSQI had low internal reliability coefficients. Low internal reliability coefficients indicate that participants are not responding uniformly to similar questions in the health measures. For example, the

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Percieved Stress Scale is proposed to measure the overall stress level of participants. If participants are stressed, they should indicate that they are angry when they face unexpected events. They should also indicate that they feel like their life is out of their control. If participants do not respond similarly to similar questions, the internal reliability coefficient is lower.

A possible explanation for a low internal reliability coefficient is that participants may not understand the question being asked of them. This lack of understanding might indicate a poor translation. There is also a possibility that Hispanic immigrant participants are not familiar with the format of health questionnaires used in the United States. Participants may be used to yes or no questions rather than the multiple response questions used in the United States such as somewhat agree, somewhat disagree, etc. As a result, Hispanic immigrants may have been confused about how to respond to this type of question. There is also a possibility that some concepts do not adequately translate between cultures. For example, the SF-36 was changed from using the phrase "full of pep" to "full of energy" to better translate between cultures (Ware, Kosinski, & Dewey, 2000). In this study, one Spanish translation was used for Hispanic immigrants from multiple countries. However, each country uses different words to express the same concepts. Therefore, immigrants from Argentina may understand a word differently than immigrants from Mexico.

Future research directions

Future research should include multiple approaches to measuring childhood SES. This research should also include the current subjective SES measure. The other approaches objectively quantified father's occupation (Luo & Waite, 2005; Regidor et al.

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2003), total income at birth and during childhood (Regidor et al., 2003), mother and father's educational years (Luo & Waite, 2005), and perceived financial satisfaction during childhood (Luo & Waite, 2005).

Overall, the findings in this study suggest that childhood subjective social status is a useful way of examining the relationship between childhood SES and adult health. In previous studies as well as this study, childhood social status was the most powerful predictor of adult health. More research needs to be conducted with attention to the use of a subjective SES scale to quantify SES. As this research indicates, subjective SES scales are better predictors of health.

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Appendix 1

(1)Consent Form to be a Research Participant

Introduction

This research study is being conducted by Mathew Bowden at Brigham Young University to determine how individuals feel about their own health and background.

Procedures

You will be asked to complete a questionnaire packet. The packet includes eleven questionnaires. The complete packet should take a little over a ½ an hour to complete. The packet consists of questionnaires concerning general demographical information, and physical and mental health.

Risks/Discomforts

There are minimal risks for participation in this study. However, you may feel emotional discomfort when answering questions about personal beliefs.

Benefits

There are no direct benefits to subjects. However, it is hoped that through your participation, researchers will learn more about how a person's background relates to his/her health.

Confidentiality

All information provided will remain confidential and will only be reported as group data with no identifying information. All data, including questionnaires will be kept in a locked office and only those directly involved with the research will have access to them.

Compensation

Participants will receive a candy bar that they select at the time of the experiment.

Participation

Participation in this research study is voluntary. You have the right to withdraw at anytime or refuse to participate entirely without jeopardy to your class status, grade or standing with the university.

Questions about the Research

If you have questions regarding this study, you may contact Mathew Bowden at 263-3076, mgb52@email.byu.edu or Dr. Patrick Steffen 422-7757, Patrick_Steffen@byu.edu.

Questions about your Rights as Research Participants

If you have questions you do not feel comfortable asking the researcher, you may contact Dr. Renea Beckstrand, IRB Chair, 422-3873, 422 SWKT, renea_beckstrand@byu.edu.

I have read, understood, and received a copy of the above consent and desire of my own free will and volition to participate in this study.

Signature:_____ Date:_____

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(2) Demographic Questionnaire (Please fill in the blanks and circle your responses)

We would like you to complete the following questions to help us get to know you better. Please circle the one best answer and fill in the blank.

What is your gender? 1. Male 2. Female What is your age?____

How many years of education have you had? (From 1 to 20, starting with first grade or its equivalent) _____

What is your level of education?

1. Less than high school
2. High school graduate
3. Vocational or trade school
4. Some college
5. College graduate
6. Postgraduate degree

How do you define your ethnicity?

1. African American
2. Asian
3. Latino
4. Native American
5. Pacific Islander
6. White (Caucasian)
7. Other:_____
8. Multi-racial:_____

What is your total household annual income? _____

How many wage earners contributed to this income? _____

What is your annual income?_____

What is your marital status?

1. Married; how many years:____
2. Living with partner, # years:___
3. Never married
4. Separated
5. Divorced
6. Widowed

How would you describe your employment status?

1. Employed full-time
2. Employed part-time
3. Unemployed
4. Homemaker
5. Retired
6. Other _____

How would you describe your current financial circumstances in general?

1. I cannot make ends meet
2. I am barely making it
3. I am breaking even
4. I have extra money after paying the bills
5. I do not have to worry about money

What is your current occupation? _____

If you are married or have a significant partner, what is his/her occupation? _____

Do you attend a church? 1. Yes 2. No
If yes, describe what is the name of this church. _____

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Are you presently receiving any financial assistance from another person or source such as public assistance or student loans? 1. Yes 2. No

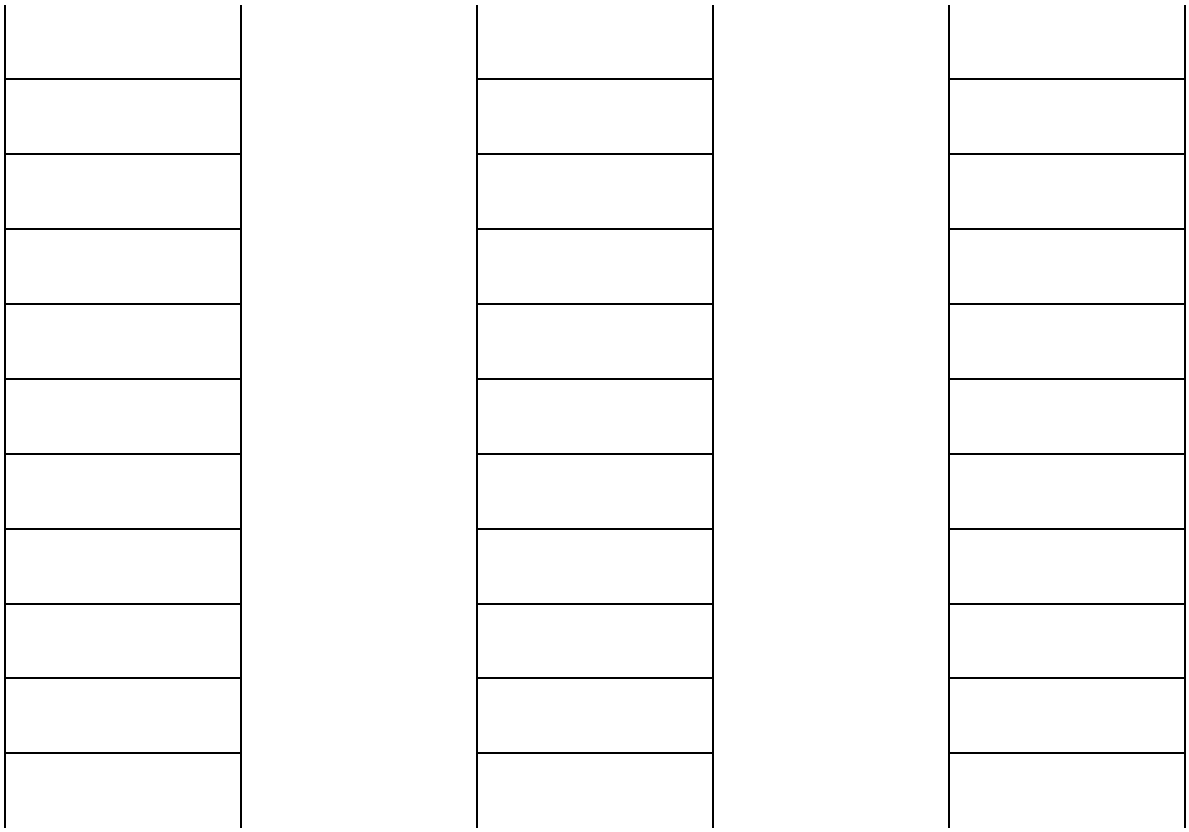
If yes, describe type of assistance_____

What is your height? _____ What is your weight? _____

Subjective SES scale (Mark an X)

Instructions: Think of this ladder as representing where people stand in our society. At the top of the ladder are the people who are the best off, or those who have the most money, most education, and best jobs. At the bottom are the people who the worst off, or those who have the least money, least education, and worst jobs or no job.

Place an X on the rung that best represents where you think you stand on the ladder.



In your hometown* **In your community** **In the United States**

*If you have multiple places where you grew up, consider them together

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Appendix 2 Autorización para ser sujeto de investigación *(1)*

Introducción

Este proyecto es dirigido por Mathew Bowden de Brigham Young University para determinar como las personas se sienten sobre su propia salud y antecedentes (historia personal).

Procedimientos

Se le pedirá completar un paquete de cuestionarios. El paquete incluye 16 páginas de preguntas. El paquete completo no debe tomar más de una hora para completar. El paquete consiste de cuestionarios de información general demográfica y de la salud física y mental

Riesgos

Hay riesgos mínimos para la participación en este estudio. Sin embargo, usted puede sentirse incómodo al contestar las preguntas sobre sus creencias personales

Beneficios

No hay beneficios directos para los participantes. Sin embargo, se espera que con su participación, los investigadores aprenderían más sobre como se relacionarían sus antecedentes con su salud.

Confidencialidad

Toda la información proporcionada será guardada confidencial y será divulgada solamente como datos de grupo sin ninguna información identificante. Todos los datos, incluyendo los cuestionarios serán guardados en una oficina privada y solo los que estén directamente involucrados directamente con el proyecto tendrán acceso a ellos.

Compensación

Los participantes recibirán un dulce que seleccionaran a la hora de la investigación

Participación

Su participación en este estudio es voluntaria. Tiene el derecho de retirarse en cualquier momento o rehusar a participar completamente sin ningún peligro de estado de clase, calificaciones, o estado con la Universidad.

Preguntas sobre la investigación

Si tiene preguntas sobre este estudio, puede contactar a Mathew Bowden a 263-3076 mgb52@email.byu.edu o al Dr. Patrick Steffen a 422-7757, Patrick_Steffen@byu.edu

Preguntas sobre sus derechos como participantes de estudios

Si tiene preguntas y no se siente cómodo de hablar con su investigador, puede contactar al Dr. Renea Beckstrand, IRB Chair, 422-3873, 422 SWKT, renea_beckstrand@byu.edu.

He leído, comprendido, y recibido una copia de la forma anterior y deseo de mi propia voluntad participar en este estudio

Firma_____ Fecha: _____

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(2) Cuestionario de demográficos (Por favor llene los espacios en blancos y circule sus respuestas)

Nos gustaría conocerle mejor por medio de este cuestionario. Para cada pregunta indique con un círculo la respuesta que sea más adecuada para usted.

¿Cuál es su sexo? 1. Masculino 2. Femenino ¿Cuál es su edad? _____

¿Cuántos años de educación ha tenido? (Desde 1 a 20, empezando con el primer grado o su equivalencia)

_____

¿Cuál es su nivel de educación?

1. Menos que escuela secundaria
2. Graduado de preparatoria o bachillerato
3. Escuela técnica
4. Algunos años de la Universidad
5. Graduado de la universidad
6. Licencia de post grado

¿Cómo define su étnicidad?

1. Americano Africano
2. Asiático
3. Latino
4. Americano Nativo
5. Islas de Pacifico
6. Anglo (Caucasian)
7. Otro:_____
8. Multi-racial:_____

¿Cuál es su ingreso total familiar del año pasado? _____

¿Cuántas personas contribuyeron a este ingreso? _____

¿Cuál es su ingreso personal del año pasado? _____

¿Cuál es su estado civil?

1. Casado (a); ¿Cuántos años?_____
2. Conviviente, ¿Cuántos años?_____
3. Soltero (a)
4. Separado (a)
5. Divorciado (a)
6. Viudo (a)

¿Cómo describe su estado de empleo?

1. Empleado a tiempo completo (full-time)
2. Empleado de medio tiempo (part-time)
3. Sin empleo
4. Ama de casa
5. Jubilado (a)
6. Otro _____

En general, ¿Cómo describe su estado financiero corriente?

1. No puedo cubrir lo básico
2. Casi estoy cubriendo lo básico
3. No tengo ni más ni menos de lo que necesito
4. Tengo dinero después de pagar los recibos y cuentas
5. No tengo que preocuparme sobre el dinero

¿Cuál es su ocupación actual? _____

¿Si está casado(a) o tiene otro conviviente quien ha contribuido a su ingreso, cuál es el empleo de él o ella?

_____

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¿Asista una iglesia? 1. Sí 2. No

¿Si es así, cuál es el nombre de esta iglesia? _____

¿Está recibiendo ayuda económica de alguna otra persona o instituciones como el gobierno?

1. Sí 2. No

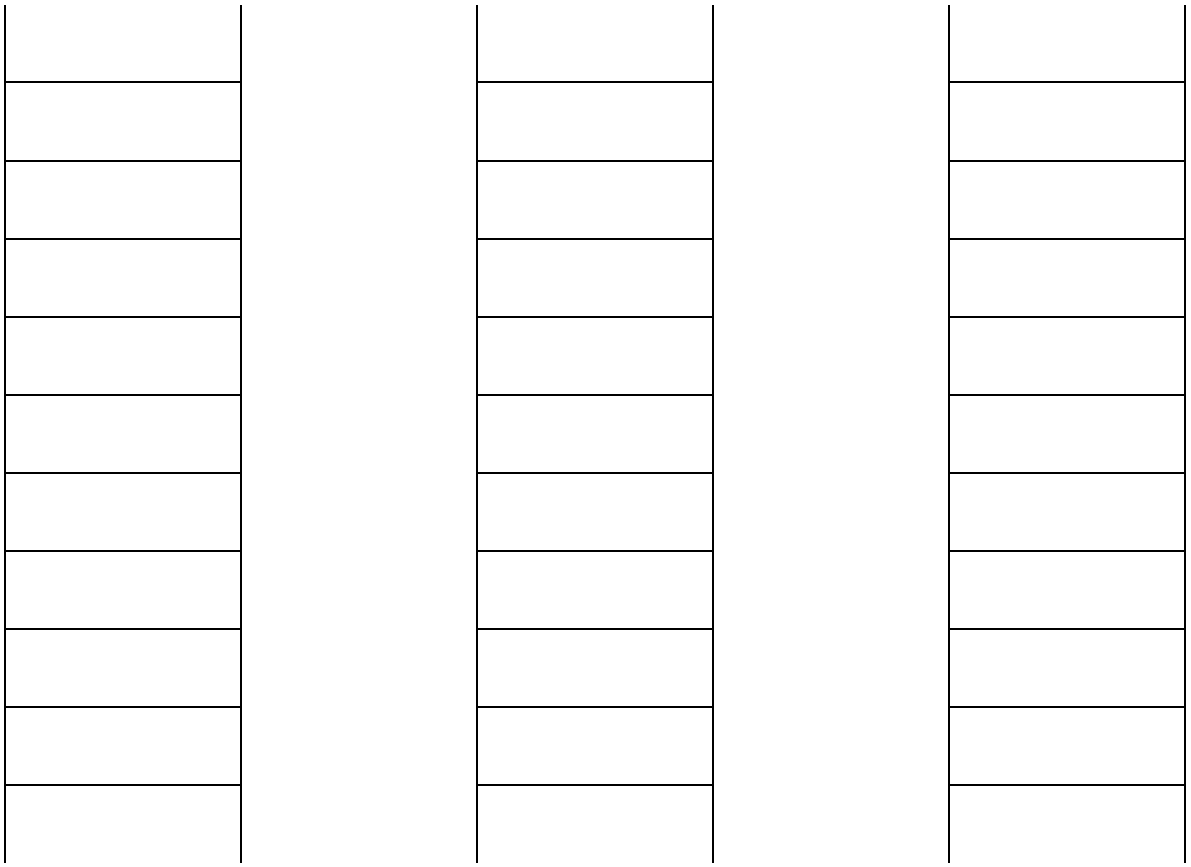
Si es así, describa el tipo de apoyo _____

¿Cuál es su estatura? _____ ¿Cuánto pesa? _____

Subjective SES scale (Marca un X)

Instrucciones: Piense de esta escalera como si representa donde la gente esta situada en la sociedad. Los escalones altos son las personas que tienen lo mejor o los que tienen más dinero, más educación y mejores empleos. En los escalones bajos representan las personas que les va peor o quienes no tienen mucho dinero, buena educación, o están desempleados.

Ponga una X sobre el escalón que representa adonde piensa que usted está situado (a) en la escalera.



En su pueblo o ciudad donde se crió* En su comunidad En los Estados Unidos

*Si tiene muchos lugares donde se crío, piense de ellos juntos

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(6) Artículos y instrucciones para el PSS (circule sus respuestas)

Las preguntas en esta escala le piden información sobre sus sentimientos y pensamientos durante el mes pasado. En cada situación, se le pedirá indicar *cuán a menudo* usted se ha sentido o pensado de alguna manera. Aunque algunas de las preguntas son similares, hay diferencias entre ellas y debe tratar a cada ua como una pregunta diferente. La mejor manera es contestar cada pregunta rápidamente. En otras palabras, no trate de sumar el número de veces que se sintió de cierta manera en particular, pero indique la respuesta que le parece como un cálculo razonable. Por cada pregunta, escoge una de los siguientes alternativos

	Nunca	Casi nunca	A veces	A menudo	Muchas veces
1. En el mes pasado, ¿cuán a menudo se ha enojado por causa de algo que pasó que no fue anticipado?	0	1	2	3	4
2.¿En el mes pasado, cuán a menudo se ha sentido que no tenía control sobre las cosas importantes en su vida?	0	1	2	3	4
3.¿En el mes pasado, cuán a menudo se ha sentido nervioso y estresado?	0	1	2	3	4
4. En el mes pasado, ¿cuán a menudo ha podido soportar exitosamente los problemas que le irrita en la vida?	0	1	2	3	4
5. En el mes pasado, ¿cuán a menudo se ha sentido que estaba soportando bien los cambios importantes que estaban ocurriendo en su vida?	0	1	2	3	4
6. En el mes pasado, ¿cuán a menudo se ha sentido capaz con su habilidad de soportar sus problemas personales?	0	1	2	3	4
7. En el mes pasado, ¿cuán a menudo se ha sentido que las cosas estaban pasando como usted querría.	0	1	2	3	4
8.¿En el mes pasado, cuán a menudo se ha encontrado que no podía soportarse todas las cosas que tenía que hacer?	0	1	2	3	4
9. En el mes pasado, ¿cuán a menudo ha podido controlar las cosas que le molesta en su vida?	0	1	2	3	4
10. ¿En el mes pasado, cuán a menudo se ha sentido que tenía control de las cosas?	0	1	2	3	4

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	Nunca	Casi nunca	A veces	A menudo	Muchas veces
11. En el mes pasado, ¿cuán a menudo se ha enojado por causa de cosas que pasaban fuera de su control?	0	1	2	3	4
12. En el mes pasado, ¿cuán a menudo se ha encontrado pensando sobre cosas que tiene que lograr?	0	1	2	3	4
13. En el mes pasado, ¿cuán a menudo ha podido controlar la manera que pasa su tiempo?	0	1	2	3	4
14. En el mes pasado, ¿cuán a menudo ha sentido que las dificultades estaban creciendo hasta el punto que no podía aguantarlas?	0	1	2	3	4

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Table 1

Demographic characteristics of Caucasian and Hispanic immigrants compared to national averages

Characteristic	Caucasian sample	Caucasian National averages	Hispanic sample	Hispanic National averages
Mean age	35.3 +/-11.8	[a] 35.3	37.3 +/- 9.8	[a] 25.8
t-values for comparison with National averages	t (76) = .028 p = .978		t (72) = 10.06 p<.01	
Education level				
Percentage with high school diploma	98.7%	[a] 89.21%	68.5%	[a] 58.9%
Percentage with Bachelor's degrees	53.8%	[a] 28.2%	21.9%	[a] 10.3%
Total Household income				
Mean	$55,581 +/-41,545		$26,451 +/- 17,158	
Median	$44,500	[a] $50,614 median	$24,000	[a] $44,684
t-values for comparison between Sample and National averages	t (71) = 1.015 p = .314		t (70) = -8.95 p<.01	
BMI	26.4 kg/m^2	25-29.9 kg/m^2	25.8 kg/m^2	25-29.9 kg/m^2

Note. [a] Information taken from the U.S. census-http://www.census.gov.

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Table 2

Descriptive sample characteristics

Characteristic	Hispanic sample n	Caucasian sample n
Gender		
Male	31	37
Female	41	41
Self-rated health		
Poor	0	0
Fair	5	4
Good	28	30
Very Good	27	36
Excellent	11	8
Hometown subjective social status		
Mean +/- standard deviation	5.51 +/- 2.48	6.18 +/- 1.78
Community subjective social status		
Mean +/- standard deviation	5.27 +/- 2.17	5.96 +/- 1.88
Marital status		
Married or living together	52	59
Single	9	16
Divorced or separated	11	2
Widowed	1	1
Church		
LDS	30	71
Non-LDS	35	5
None	8	2

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Table 3

LOT-R English version-Principle component analysis

	Component	
Item number	1	2
1	.061	.888
3	.666	.214
4	.315	.772
7	.873	.015
9	.824	.180
10	.714	.267

Note. Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
Rotation converged in 3 iterations.

Component 1: 3,7,9, 10; Component 2: 1,4

Table 4

LOT-R Spanish version-Principle component analysis

	Component	
Item number	1	2
1	.076	.707
3	.707	-.128
4	.009	.724
7	.761	-.023
9	.827	.231
10	-.066	.729

Note. Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
Rotation converged in 3 iterations.

Component 1: 3,7,9; Component 2: 1,4,10

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Table 5

PSQI English version-Principle component analysis

	Component	
Component number	1	2
3	.131	.522
4	-.393	.534
2	.016	.817
5	.793	.359
1	.817	.201
6	.413	.651
7	.683	-.148

Note. Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 3 iterations.

Component 1: 2,3,4,6; Component 2: 1,5,7

Table 6

PSQI Spanish version-Principle component analysis

	Component		
Component number	1	2	3
3	.150	.763	.176
4	-.105	.849	.119
2	.746	.404	-.084
5	.782	.071	.346
1	.137	.314	.761
6	.697	-.201	.070
7	.086	.029	.888

Note. Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 3 iterations.

Component 1: 2,5,6; Component 2: 3,4; Component 3: 1, 7

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Table 7

Final Regression models using Stepwise regression for predicting health measures for Hispanic sample

	SES indicator				
	Hometown subjective SES Standardized B	Summarized objective SES Standardized B	Community subjective SES Standardized B	Nation Subjective SES Standardized B	Adjusted ΔR^2
Model 1: predicting self-reported health	.436				.178*
Model 2: predicting general health	.331				.096*
Model 3: predicting mental health	.283				.067*
Model 4: predicting BMI	-.248				.047*
Model 5: predicting optimism		.315			.085*
Model 6: predicting vitality		-.295			.073*

Note. *p<.05; **p<.001

Table 8

Final Regression models using Stepwise regression for predicting health measures for Caucasian sample

	SES indicator				
	Hometown subjective SES Standardized B	Summarized objective SES Standardized B	Community subjective SES Standardized B	Nation Subjective SES Standardized B	Adjusted ΔR^2
Model 1: predicting self-reported health	.261				.056*
Model 2: predicting perceived stress			-.320		.090*
Model 3: predicting optimism			.294		.075*
Model 4: predicting control over life			.227		.039*
Model 5: predicting aggregate mental health				.252	.051*
Model 6: predicting body mass[a]	-.223				.037*

Note. *p<.05; **p<.001, [a] the natural log of BMI was used in this computation because of normality issues.

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Table 9

Hispanic immigrant sample: Correlations between objective and subjective SES

Social setting	1	2	3	4
1. Summarized objective SES	-	.337**	.267*	
2. Hometown subjective SES		-	.640**	
3. Community subjective SES			-	.499**
4. Nation subjective SES				-

Note. *p<.05; **p<.001

Table 10

Caucasian sample: correlations between objective SES and subjective SES

Social setting	1	2	3	4
1. Summarized objective SES	-	.264*	.390**	.403*
2. Hometown subjective SES		-	.646**	.509**
3. Community subjective SES			-	.649**
4. Nation subjective SES				-

Note. *p<.05; **p<.001

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Table 11

Comparison with Adler et al. (2000) validation study with Caucasian women

Health measure	Adler et al's (2000) Objective SES	Adler et al's (2000) Subjective SES	Current Study nation subjective SES
Physical Health	.05	.18*	.067
BMI	-.07	-.12	-.139
Sleep quality	-.27*	-.10	-.144
Resting Systolic Blood pressure	.06	-.16	-.027
Subjective stress	-.08	-.25**	-.273*
Pessimism	-.20*	-.37**	-.294**
Control over life	-.05	.26**	.227*

Note. *p<.05; **p<.01

Table 12

Objective vs. Subjective SES comparisons in Caucasian group

SES measure	[a]Singh-Manoux et al.'s (2003) study	[b]Hu et al.'s (2003) study	[b]Operario et al's (2004) study	Current study
Education	.53*	.32***	.37**	.230*
Total income	.58*	.28***	.39**	.364*
Own Occupation ([b]SEI used)	.60*	.26***	No measure used	.270*

Note. *p<.05; **p<.01, ***p<.001, [a]London-based civil service employees (6895 men, 3413 women), [b]Taiwanese participants (991 participants) [c]A multicultural sample (1423 total sample, 1086 Caucasians)

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