ACCULTURATIVE STRESS, CULTURAL VALUES, AND INDICATORS OF WELLNESS IN LATINO/A ADOLESCENTS

by

BAILEY JOHNSON NEVELS

(Under the Direction of Edward Delgado-Romero, Ph.D.)

ABSTRACT

Previous research found that 34.5% of children in the United States can be classified as either overweight or obese (Ogden & Carroll, 2014). Childhood obesity has affected racial/ethnic minorities disproportionately when compared to their White counterparts (CDC, 2012; Ogden & Carroll, 2010). Researchers demonstrated that obesity is prevalent in more acculturated Latino/a adolescents (Lara et al., 2005), however, the nuances of this relationship were unclear. This study sought to better understand how to promote wellness in the Latina/o community. Latino/a adolescents from the Southeast (N = 69) completed measures of acculturative stress, cultural values, diet, and exercise. Researchers then measured their Body Mass Index (BMI) and Waist Circumference (WC) measured in order to investigate the relationship between acculturative stress, cultural values, and wellness indicators in the Latino/a adolescent population. We hypothesized that cultural values will mediate the relationship between acculturative stress and indicators of wellness such as diet, exercise, body mass index (BMI) and waist circumference (WC). No significant relationship was found between acculturative stress and the wellness indicators. However, researchers found a significant relationship between cultural values and self-reported exercise, suggesting that the more traditional Latino cultural values a participant

held, the more exercise they reported. This research demonstrated that cultural values can be a valuable feature of interventions geared toward increasing exercise in this population.

INDEX WORDS: Latina/o, Latino adolescents, acculturative stress, cultural values, diet, exercise, wellness, childhood obesity, health disparities, cultural competence, health psychology

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DEDICATION

This project is dedicated to God, through whom all things are possible. Thank You for never letting me down and never walking away.

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CHAPTER 1

Introduction

Identification of the Problem

The high prevalence of obesity, a widespread epidemic, has been demonstrated throughout the United States. Results from the National Health and Nutrition Examination Survey (NHANES) found from 2011-2012, 69% of Americans could be classified as either overweight (having a Body Mass Index, BMI, of 25.0 to 29.9 kilograms per meters squared) or obese (BMI $\geq$ 30 kg/m^2). NHANES also reported approximately 34.9% of adults in the U.S. were obese (Ogden, Carroll, Kit, & Flegal, 2014). This percentage was alarming, given the medical consequences of obesity such as type 2 diabetes, hypertension, heart disease, and in extreme cases, increased mortality (Malnick & Knobler, 2006). Malnick and Knobler (2006) further reported that obesity has been linked to stroke and respiratory disease. Obesity has been associated with psychological consequences such as increased social stigma. Not only is obesity a health problem, but it is also a financial one. Finkelstein, Trogdon, Cohen and Dietz (2009) reported that obesity related health concerns have resulted in a $40 billion increase in healthcare spending. Given the current status of the United States economy and the pressure to reduce excess spending, efforts to decrease obesity should be a focus of research in order to decrease healthcare spending.

Prior studies demonstrated that children are not immune to obesity and its consequences. The NHANES further demonstrated that between 2011-2012, 20.5% of U.S. children aged 12-19 are obese; meaning that their BMI is at or above the 95th percentile (CDC, 2012; Ogden &

Carroll, 2010; Ogden et al., 2014). Ogden and colleagues also found that 34.5% of children aged 12-19 can be classified as either overweight or obese. While the percentage of obese children was concerning, the rapid rate of increase of obesity in children was also alarming. Specifically, in the past 51 years, the rate of childhood obesity has tripled. In 1963, approximately 5% of children in the United States were obese compared to the 16.9% of children that were found to be obese between 2011 and 2012 (Ogden, Caroll, Curtin, Tabak, & Flegal, 2010; Ogden et al., 2014). Childhood obesity has severe medical consequences such as increased risk for heart disease, type 2 diabetes, muscle pain, joint pain, gynecological complications (e.g., Polycystic Ovarian Syndrome), and increased risk for adulthood obesity (CDC, 2012; Dietz, 1998). In fact, Dietz (1998) described obesity as "the most prevalent nutritional disease of children and adolescents in the United States" (p. 518).

Specifically in the state of Georgia, the CDC (2012) reported that 14.8% of adolescents in Georgia were overweight and 12.4% of adolescents were obese. The Georgia Department of Public Health (2012) reported that Georgia failed to meet goals for obesity reduction "in every age, sex, race and ethnic group," (p. 1) based on goals stated in the Healthy People 2010, a government initiative to decrease the rate of childhood obesity in the United States. In South Carolina, 15% of adolescents were overweight and 16.7% of adolescents were obese (CDC; 2012). Although the prevalence of obesity in Georgia and South Carolina fell below the national average, adolescents' health behaviors in these states were concerning. For example, 21.3% of adolescents in South Carolina and 17.6% of adolescents in Georgia did not engage in at least 60 minutes of exercise the entire week before they were surveyed. Only 23% of Georgia's adolescents and 17.1% of South Carolina's adolescents met the recommended requirement of exercising 60 minutes daily (United States Department of Health and Human Services, 2008;

CDC, 2012) Nutritionally, 74.8% of adolescents in South Carolina and 70.6% of adolescents in Georgia consumed fruit (either solid or 100% fruit juice) less than twice weekly the week before they were surveyed.

Psychologically, obese children may experience negative self-concept and discrimination (CDC, 2012). Dietz (1998) also wrote that because children who are obese are often taller than their normal-weight counterparts, they are treated as though they are older than their chronological age. Therefore, obese children may feel as though they are expected to perform or interact with adults as though they were older, potentially leading to frustration or feeling as though they are unable to meet expectations. Dietz further noted that children are becoming more aware of weight and the status associated with it, which may result in obese children having fewer friends due to others' judgments about their weight. Malick and Knobler (2006) wrote, "rapid increase in prevalence [of obesity] suggests that behavioural and environmental influences predominate, rather than biological changes"(p.565). This research suggested that the psychological ramifications of childhood obesity are important to investigate, as eating as a coping strategy could create a perpetual cycle of unhealthy eating and obesity. That is, children who are obese may result to emotional eating to cope with psychological problems such as stigma and prejudice; therefore, they could be at risk to remain obese, compounding the detrimental psychological and medical complications.

Childhood obesity has afflicted racial and ethnic minorities disproportionately more than their White counterparts. NHANES found that from 2011-2012, 22.6% of Latinos aged 12-19 were obese compared to 19.6% of Non-Hispanic White adolescents (Ogden et al., 2014) Similarly, the survey found that 38.1% of Latinos aged 12-19 were overweight or obese compared to 31.2% of Non-Hispanic White adolescents and 24.6% of Non-Hispanic Asian

adolescents. Only Non-Hispanic Black adolescents had a higher incidence of overweight and obesity (39.8%). Regarding Latino adolescents, the prevalence of overweight jumped from 8% to 21%, between 2001-2004 (NHCSL, 2010). Children from underrepresented groups are suffering at a disproportionate rate in the United States, indicating that there may be systemic problems that need to be addressed in order to reverse the trend of childhood obesity in these groups. Research indicated further exploration of the factors influencing childhood obesity in ethnic minority groups is an important step toward prevention of adulthood obesity and the promotion of health in these communities.

Popular media has addressed the need to reverse the trends of childhood obesity (e.g., Jamie Oliver's Food Revolution and the documentary Food, Inc.), along with the U.S. government through such initiatives as the Healthy People 2010 initiatives and the Child Nutrition Bill, aimed at improving the nutritional value of school lunches. In fact, one of the objectives of Healthy People 2010 was to reduce health care disparities through the delivery of culturally knowledgeable health care (Caplan, 2007), demonstrating both the U.S. government's awareness of health disparities and its commitment to eliminating them. Childhood obesity has also been addressed in medical and public health research, but psychological research on the psychological factors impacting childhood obesity has been limited. Psychological research on childhood obesity in the Latino population was even scarcer.

Given the psychological consequences that obesity may have on children, and the potential psychological factors that may lead to childhood obesity in the first place, there is a great need for psychological research in this area. Specifically, understanding the psychological processes that drive the behaviors (i.e., eating habits and physical activity) related to childhood obesity is an important area for psychology as a field to pursue. In fact, Tucker and colleagues

(2007) noted that researching health disparities aligns with the professional identity of counseling psychologists. They reported that understanding health disparities is consistent with counseling psychology's focus on "prevention, multiculturalism, and social justice" (p. 650). Counseling psychologists have been trained on culturally sensitive research, therefore, counseling psychologists have a responsibility to use those skills to improve the quality of life for traditionally underserved populations. Investigating health disparities, and in this case childhood obesity, would enable counseling psychologists to advocate for marginalized communities both on an individual and a public policy level. While at a glance childhood obesity appeared to be a public health, public policy or medical issue, childhood obesity is a psychological and social justice issue, as well.

Purpose of the Study

The U.S. Census Bureau (2013) reports there are 53 million Latinos living in the United States, making this group the largest ethnic minority in the country. From a health and financial perspective, it is imperative that research focus on how to promote wellness in this population. Because of the high prevalence of overweight and obesity, many Latino/a adolescents are at risk for developing serious health problems, notably at a disproportionate rate when compared to their White counterparts. However, counseling psychology as a field has not researched what psychological mechanisms are contributing to this epidemic. This health disparity represents a form of oppression in an environment that has become increasingly hostile to Latino U.S. residents, generally, and Latino immigrants, specifically. Research on acculturation and childhood obesity in Latinos has produced mixed results, but many research studies indicate that stress puts children at risk for obesity (Lara, Gamboa, Kahramanian, Morales, and Bautista, 2005). Therefore, the purpose of this study is to investigate the relationship between

acculturative stress and obesity in the Latino population to better understand what about the acculturation process is related to increased prevalence of obesity in adolescents.

Additionally, previous research demonstrated that cultural factors surrounding food and eating influence the way Latino children are eating (Kaufman & Karpati, 2007). Cultural values will be investigated in this study, as well, in order to determine how they impact the relationship between acculturative stress and obesity in Latino/a adolescents. This study aims to research the relationship between acculturative stress, cultural values and obesity in order to learn what psychological factors are impacting the health disparity of childhood obesity in the Latino population.

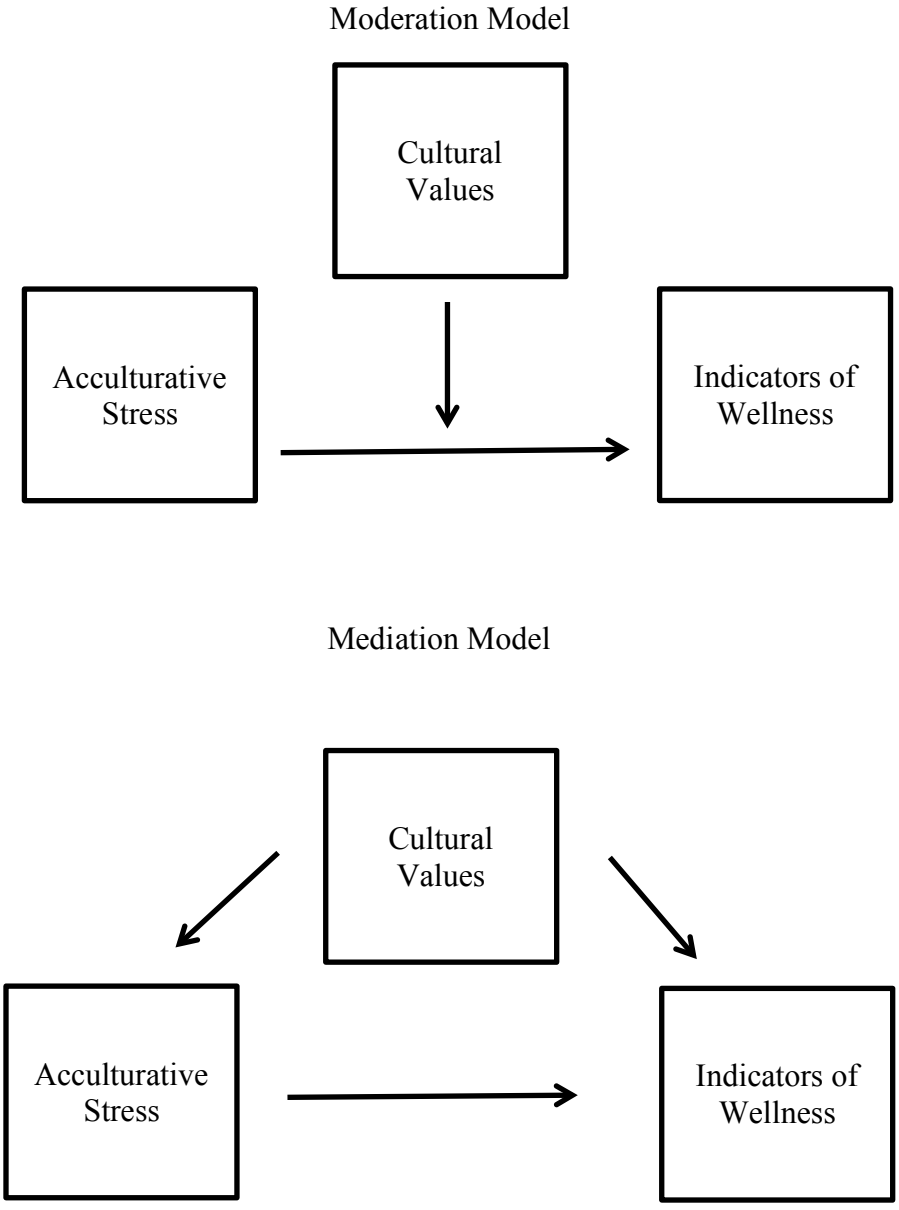
Research Questions and Hypotheses

The following questions are investigated by the current study: (a) Does acculturative stress predict the following wellness indicators: BMI, Waist Circumference (WC), self-reported diet and self-reported physical activity, in Latino/a adolescents? (b) Do Latino cultural values moderate or mediate the relationship between acculturative stress and obesity?

We hypothesize (a) that acculturative stress will predict the above mentioned wellness indicators. Specifically, we hypothesize that adolescents who endorse more acculturative stress will be more likely to have a higher BMI, WC, and endorse less healthy diets and report less exercise. We also hypothesize (b) that acculturative stress will predict the wellness indicators for those who endorse increased adherence to traditional Latino cultural values. Although both mediation and moderation effects will be tested, we hypothesize that the more traditional Latino values a participant holds, the more acculturative stress they will endorse and the more likely they are to demonstrate symptoms of obesity. Figure 1 represents the hypothesized models.

Figure 1

Hypothesized Models.



CHAPTER 2

Review of the Literature

Introduction

The following chapter reviews the literature regarding the variables to be investigated in this present study. Acculturation, stress, acculturative stress, and Latina/o cultural values will be discussed along with research that has shown a link between these variables and obesity. Then, the literature review will be synthesized to provide rationale for this study. This chapter aims to provide evidence arguing, based on the literature, a potential relationship between acculturative stress, cultural values, and obesity in Latina/o adolescents.

Acculturation

In order to understand the concept of acculturative stress, it is important to discuss foundational knowledge about acculturation. The process of acculturation has been generally explained as "the process by which individuals adopt the attitudes, values, customs, beliefs, and behaviors of another culture" (Abraído-Lanza, Arbrister, Florez, and Aguirre, 2006, p. 8; LaFromboise, Coleman, & Gerton, 1993). Acculturation has also been defined as the "acquisition of dominant cultural norms by members of a non-dominant group" (Gorden-Larsen, Harris, Ward, and Popkin, 2003, p. 2024). Learning how to reconcile two (or more) differing cultures is a significant process that may involve compromising long-held values and traditions. It may also involve changing the way one has learned to connect socially and culturally with others. Abraído-Lanza and colleagues (2006) note the acculturation process additionally presents challenges and benefits related to the health of immigrants and future US-born generations. For

example, these authors suggest acculturation could impact health behaviors through the adoption of coping strategies to deal with increased prejudice and decreased financial resources, through contact with novel beliefs about health behaviors, or through shifting beliefs about identity. Therefore, when examining the health of Latinos in the United States, it is essential that researchers investigate the impact acculturation may be having on the health of Latinos.

Acculturation has been previously conceptualized using unidimensional, linear models (Berry, 2003). Unidimensional models explain acculturation as a process by which an individual transitions from being completely engrossed in her native culture to being completely acculturated to the dominant culture. Viewed in terms of polarities, an individual or group moves "over time from one pole (i.e., from their traditional way of living) to another (e.g., Western, modern, acculturated)" (Berry, 2003, p. 22). This transition comes at the expense of the values from the individual or group's native culture, because the individual or group breaks ties with the culture of origin in order to assimilate into the dominant culture (Lara, Gamboa, Kahramanian, Morales, & Bautista, 2005).

Bidimensional models provide further conceptualization of the process of acculturation (Berry, 2003; Lara et al., 2005). A bidimensional acculturation model suggests that the act of "acquiring or adhering to a new dominant culture is independent of maintaining the original culture" (Lara et al., 2005, p. 370). That is, it is possible to adhere to traditional values while adopting cultural traditions of the new, dominant culture. Therefore, while being completely immersed in either native culture or dominant culture are acculturation possibilities, those are not the only two options for explaining the acculturation process. Rather, bidimensional models stress that biculturalism, or maintaining both native and new cultures, is possible.

Bidimensional models contain four categories or strategies: assimilation, separation, integration, and marginalization (Berry, 2003; Lara et al., 2005). In the assimilation category, individuals are thoroughly engrossed in the new, dominant culture and are disconnected from their culture of origin. However, those who assimilate into the target culture may feel rejected by their culture of origin and/or the target culture. Assimilation may also lead to increased stress as one attempts to learn a new way of living based upon the target culture (LaFromboise et al., 1993). Another acculturation strategy is separation. People employing the separation strategy dismiss the new culture and remain immersed in their native culture. Marginalization is the strategy that refers to individuals who reject both their native culture and the new, dominant culture (Berry, 2003; Berry, 2006; Lara et al, 2005). Marginalization may also be reflective of failed attempts to assimilate into the target culture and may reflect discrimination or prejudicial attitudes or actions of the dominant culture (Berry, 2003). The integration strategy describes individuals who are able to incorporate values of both the dominant and native cultures into their lives. Integration involves the idea of alternation, which "suggests that it is possible to maintain a positive relationship with both cultures without having to choose between them" (LaFromboise et al., 1993, p. 399). Berry (2003) noted that the integration strategy reflects an individual's desire for "cultural integrity," (p.24). Although theoretically it may seem preferable to integrate native and dominant cultures, some may find attempting do to so disadvantageous due to complexities such as "ambiguity, identity confusion, and normlessness" (LaFromboise, et al., 1993, p. 395). In order for integration to occur, both cultural groups must respect the rights of the other to be culturally different (Berry, 2003). Given our nation's history of discriminating against ethnically and culturally different groups, successful integration may be difficult to achieve in the United States.

The acculturation process is multifaceted. Berry (2003) wrote that acculturation could involve direct and indirect changes. Acculturation may not occur immediately, as psychological responses to a new culture may take time to process. Additionally, changes due to acculturation could be reactive to adverse interactions in a new culture. That is, after experiencing discrimination, a person may choose to maintain traditional cultural values rather than assimilate into a target culture. However, according to Berry (2003), choosing this strategy of marginalization could lead to the most acculturative stress in comparison to the other acculturation strategies.

Given that the acculturation process is complicated and varies between individuals, attempting to measure acculturation can prove challenging (Berry, 2006). If conceptualizing acculturation from the unidimensional model, an individual score on an acculturation instrument could essentially reveal a specific level of acculturation. If we choose to conceptualize acculturation through a multidimensional lens, then the many dimensions of acculturation must be taken into account during measurement. Acculturation scales traditionally measure subcategories of the acculturation process (Lara et al., 2005). For example, some scales might measure acceptance of cultural values, specific behaviors, language preference, and cultural knowledge. However, Lara and colleagues' (2005) literature review revealed that all acculturation scales measure language as a subcategory of acculturation. They hypothesize that language, as a subconstruct of acculturation, is a relatively accessible construct to measure, especially when contrasted with acculturation's more complex facets such as cultural norms and beliefs. In fact, Marín and Gamba (1996) attempted to include other subcategories of acculturation in their Bidirectional Acculturation Scale for Hispanics, but through the validation

process, language produced the most reliable and valid factor structure. Regardless of how acculturation is measured, language only tells part of the acculturation story.

Lara et al.'s (2005) literature review of research examining the relationship of acculturation, or "assimilation to mainstream U.S. culture" (p. 374) and Latino health revealed that in terms of Latinos living in the United States, more acculturated individuals exhibited more negative health behaviors, including dietary behaviors. Specifically, less acculturated Latinos had more nutritious, nutrient rich diets than those who were more acculturated (Dixon, Sandquist, & Winkleby, 2000; Guendleman & Abrams, 1995). However, these studies are over ten years old, and many of the studies conducted on Latinos in the United States are comprised of predominantly Mexican-Americans, which only capture a percentage of the Latino population living in the United States. Therefore, more research needs to be done to investigate the relationship between dietary choice and acculturation, in order to compare within group differences in dietary choices (e.g., Puerto Ricans or Cuban Americans) instead of applying the overarching term of Latinos to apply to all subgroups.

Acculturation and obesity. Myers and Rodriguez (2003) note that much of the research investigating acculturation and physical health outcomes considered acculturation in terms of how it relates to risk factors rather than its direct relationship to negative health outcomes. The effects of acculturation on physical health are varied across ethnicities and health conditions. They argue that more research needs to be done to better understand the interactions of acculturation and physical health outcomes.

Negative behavior changes are more prevalent in second- and third- generation immigrants (Myers & Rodriguez, 2003). According to Myers and Rodriguez (2003), immigrants' native cultures provided protective factors that are no longer available to them when they

immigrated; therefore, they eventually turn to unhealthy behaviors. Unhealthy behaviors included increased caloric intake and decreased physical activity. This stationary lifestyle paired with unhealthy eating leads to increased prevalence of obesity, which in turn, leads to increased risk for diabetes, heart disease, and cancer. When Latina/o immigrants arrive to the United States, they are more likely to reside in low-income neighborhoods (Gordon-Larsen et al., 2003). However, over time they become more financially and linguistically established which results in acclimation to American culture. Gordon-Larsen et al. (2003) suggested that this greater stability or acclimation leads to greater access to an American lifestyle comprised of high calorie diets and less physical activity. These aspects of the American lifestyle are part of the "obesigenic" environment of the United States and include "sedentary lifestyles, large portion sizes, heavy advertising of high-fat, energy-dense foods, and mass media" (Gordon-Larsen et al., 2003, p. 2030). Increased access to the "obesigenic" lifestyle may result in increased unhealthy eating and lack of physical exercise, which are leading to a higher level of obesity in second- and third-generation Latina/o immigrants. Ayala and Colleagues (2008) found that less acculturated Latinos ate and drank less sugar and ate more fruit than their more acculturated counterparts. They note that the research is still inconclusive, however, as evidenced by their literature review revealing that less acculturated individuals used meat fat to prepare food and were more likely to drink whole milk.

Specifically related to obesity in adolescents, Popkin and Urdry (1998) discovered that second and third generation Latina/o adolescents were more likely to be obese than those born outside of the United States. Immigrating to a new culture involves assuming both the positive and negative aspects of the dominant culture (Kaplan, Huguet, Newsom & McFarland, 2004). In fact, Kaplan and colleagues (2004) discovered that the longer Latina/o adolescent immigrants

lived in the United States, the more likely they were to engage in unhealthy eating. Additionally, Gordon-Larsen et al. (2003) reported that first generation Latina/o adolescent immigrants are more likely to eat healthier and engage in more physical activity than their U.S.-born counterparts. For example, they found that first generation Mexican immigrants ate less cheese and fast food and ate more "rice, beans, fruits, and vegetables (p. 2026)." Furthermore, within group differences were observed in this study. For example, they showed that foreign-born Cuban adolescents ate more vegetables and foreign-born Puerto Rican adolescents ate more fruit than their US-born counterparts. Regarding sedentary behavior, foreign-born Mexicans reported watching significantly less television than their US-born counterparts, and foreign-born Cubans spent more time on the computer than their US-born counterparts.

Taken together, this research provided evidence for the Latino Health Paradox regarding obesity, which refers to the trend that second and third generation Latinos show a higher prevalence of obesity and eat less healthy diets compared to their first generation counterparts (Acevedo-Garcia & Bates, 2008). This trend has been described as paradoxical, because it differs from what one might expect given their socioeconomic status. That is, first generation immigrants demonstrated better health outcomes despite having a lower socioeconomic status. Occasionally, researchers have demonstrated contradictory evidence to the Latino health paradox, such as Abraído-Lanza, Chao, and Flórez (2005) showing that increased acculturation was related to increased recent exercise. Acevedo-Garcia and Bates (2008) noted that acculturation is one of the hypotheses as to why health differences exist between second and third-generation Latinos and their first-generation and/or foreign-born counterparts.

Although a relationship has been established between acculturation and obesity, the details of the relationship remain unclear. The longer Latina/o immigrants live in the United

States, the more likely they are to engage in increased caloric intake and decreased physical activity indicates that the culture in the United States could facilitate these unhealthy behaviors. However, could it be that increased obesity in the Latina/o adolescent population is representative of an acculturative stress response? Latina/o adolescent immigrants may feel subjected to peer influence to assimilate into United States culture, then they turn to unhealthy eating or sedentary lifestyles to deal with the stress of navigating between two cultures.

Stress and Coping

Stress has been described as "the state of threatened homeostasis" (Pervanidou and Chrousos, 2011, p.21). Stress occurs when the environment demands more of an individual than the individual's coping or adapting resources can tolerate. A stressful event is essentially a stimulus that demands an adaptation (Compas, 1987). Such a stimulus may be chronic, enduring and recurring in nature, requiring constant coping and adaptation; or it may be acute, with a specific beginning or the result of "cumulative effects of numerous life events" (Compas, 1987, p. 276).

Stress is a broad term encompassing biological and psychological demands and effects. However, the current study focuses on psychosocial stressors, which Gundersen, Mahatmya, Garasky, and Lohman (2010) defined as, "external events or conditions that threaten an individual's well-being" (p. 54). These stressors can occur at both the individual and household levels. That is, an individual deals with how he or she personally acculturates to a target culture (e.g., whether he or she is able connect to a friend group), but would also be affected by how his or her family acculturates to the dominant culture (e.g., whether she or he has to translate for her or his family). Compas Connor-Smith, Saltzman, Thomsen, and Wadsworth (2001) reviewed the literature on the types of stressors that had been researched with child and adolescent population

and found that stressors such as parental and family conflict, pain, illness, abuse, and parental divorce had all been investigated. Acculturation, however, was not reported as a stressor researched with children and adolescents.

Coping is the way that individuals respond to such stressful life events. Specifically, coping refers to a purposeful response that one employs in order to deal with or resolve the stressful life event (Compas et al., 2001). Compas and colleagues (2001) argued that coping is continual yet constantly changing in order to meet the demands that a stressful life event can inflict. Notably, coping is not always successful, but only refers to how individuals attempt to return to the homeostasis that stress disrupts. Compas (1987) noted that stress during childhood can be more detrimental than stress during adulthood, because children are still developing coping strategies to deal with stress. Further, the coping process is impacted by what personal resources an individual has developed. Therefore, when a child encounters a stressful life experience, then she may not have developed the personal resources, such as necessary cognitive skills to successfully respond to such a life experience (Compas et al., 2001; Gundersen et al., 2010). Investigating the effects of psychosocial stress on children and adolescents, including acculturation, is important because they are dealing with stressful events while still developing biologically and cognitively.

Previous research has identified subdomains of coping: problem-focused coping, emotion-focused coping, engagement, or approach coping, and disengagement, or avoidance, coping (Compas et al., 2001; Lazarus and Folkman, 1984). Problem-focused coping has been described as attempting to act on the source of stress. Such responses include investigating how to solve the problem, considering potential solutions, and then working to solve the problem. Emotion-focused coping involves dealing with the emotions that accompany the source of stress.

Examples of emotion-focused coping include expressing emotion and pursuing social support. Engagement coping describes coping responses geared toward the effects of the stressful experience, such as expressing emotions and working to change the situation; whereas disengagement coping describes coping responses that avoid the effects of the stressful experience, such as denial or wishful thinking (Compas, et al., 2001).

Stress and Obesity. Previous literature has demonstrated a link between stress and obesity, specifically noting that the more stress a person endorses, the more symptoms of obesity that they have (Gundersen et al., 2010; Marniemi, Kronholm, Toikka, Mattlar, Koskenvou, and Roennemaa, 2002; Pervanidou and Chrousos, 2011). The connection between stress and obesity reaches beyond emotional eating and sedentary lifestyle. In fact, researchers have demonstrated that chronic stress can lead to chronic activation of neurochemical systems that lead to an increased prevalence in obesity, emphasizing that the impact of stress is not only psychological but biological, as well (Marniemi et al., 2002; Pervanidou et al. 2011; Siervo, Wells, and Cizza, 2009). Because the relationship between stress and obesity is psychological and biological, it is imperative to better understand this relationship in order to reduce the prevalence of obesity in our country.

Because coping skills in children and adolescents are not fully developed, it is even more paramount that we investigate the effects of stress during a child's development (Compas, 1987; Compas, 2001). The rate of stress affects the rate of obesity in children, just as it does with adults. Children who experience more psychosocial stressors are more likely to be obese than those who do not experience similar stressors (Gundersen et al. 2010; Pervanidou et al., 2011). In a review of the literature examining the link between psychosocial stress in the household (i.e., family dynamics, environmental or social factors) and obesity, Gundersen and colleagues (2010)

found that all articles but one discovered that increased household stress was related to increased risk of obesity. Furthermore, on an individual level, stressors such as physical health, perception of stress, and academic performance were "associated with an increased likelihood of being overweight or obese" (p.60). Therefore, based on Gundersen et al.'s review, previous research has demonstrated the need to examine psychosocial stressors when considering how to address the psychological factors that impact the rate of obesity in children and adolescents. Neither acculturative stress nor immigration has been included in previous research linking psychosocial stressors to obesity, presenting a gap in the literature that has relevant implications for the growing Latino/a community in the United States.

Acculturative Stress

Arbona et al. (2010) discussed how several stressors accompany immigration, including separation from one's social support network, lack of familiarity with the new culture's language, and potentially questionable working conditions. Acculturation also presents other challenges, such as inundation with unfamiliar cultural norms, beliefs, customs, and social norms. Individuals may feel that they need to reevaluate their way of living (Berry, 2006). Moreover, immigrants may encounter racial and ethnic discrimination and prejudice once they arrive in a new country. Such acculturation-related circumstances lead to increased stress.

Stress related to the specific process of acculturation is referred to as acculturative stress (Organista, Organista, and Kurasaki, 2003). Berry (2003) defined acculturative stress as "a stress reaction to challenging life events that are rooted in the experience of acculturation" (p. 31). This term was originally conceptualized as "culture shock" (Berry, 2006, p. 287). Acculturative stress may also be used interchangeably with the term bicultural stress. Romero, Marinez, and Carvajal (2007) described bicultural stress as "the perception of stress due to everyday life stressors that

result from the pressure to adopt the majority culture as well as the minority cultures for youth in multiethnic environments" (p. 446). These definitions reflect that pressures to adapt to a new, dominant culture while maintaining one's cultural heritage can accompany the process of immigration. Romero, Carvajal, Valle, and Orduña (2007) described "discrimination, negative stereotypes, intergenerational acculturation gaps, and pressure to speak multiple languages" (p.520) as examples of stressors that create bicultural stress. Additionally, when individuals experience acculturative stress, "they come to understand that they are facing problems resulting from intercultural contact that cannot be dealt with easily or quickly by simply adjusting or assimilating to them" (Berry, 2006, p. 294).

People who employ different acculturation strategies (e.g., integration, separation, marginalization, assimilation) may experience different levels of acculturative stress (Berry, 2006). According to Berry (2006), integration, the pursuit of retaining values of one's heritage culture while incorporating values of the new culture, leads to less stress when compared to the other acculturation strategies. Integration may be less associated with stress because it enables one to maintain the values of one's cultural group, as opposed to giving them up to be accepted into another cultural group. Marginalization, however, can result in a failure to retain cultural values from one's heritage culture, making it the acculturative strategy associated with the most stress. Lack of acceptance by both (or more) cultural groups may cause increased stress compared to other acculturation strategies.

Along with one's chosen acculturative strategy, culture impacts the way that stress is expressed (Organista, Organista, and Kurasaki, 2003). Because people are navigating between two or more cultures during the process of acculturation, it could be possible that all cultures involved, target and native, influence the way that they deal with acculturative stress. In the

present study's example, we suggest that acculturative stress presents a need to cope with said stress. The dominant culture, the United States culture, models high calorie diets and infrequent exercise, which some may consider to be coping strategies. Therefore, the people who are currently experiencing acculturative stress may be coping with it based on unhealthy examples of target culture's coping strategies. Caplan (2007) noted that historically, researchers have operated under the assumption that greater time residing in the dominant culture results in less acculturative stress. However, previous research has contradicted that finding, demonstrating that those who have recently immigrated experience less acculturative stress than those who have lived in the dominant culture longer.

Caplan (2007) conducted a concept analysis on previous literature on acculturative stress in the Latina/o population. Caplan's (2007) findings suggest that acculturative stress encompasses three types of stressors: instrumental/environmental stressors, social/interpersonal stressors, and societal stressors. Instrumental and/or environmental stressors are related to the availability of goods and services that are needed for day-to-day lifestyle, for example, access to health care, lack of financial resources, and living in an unsafe neighborhood. Social and/or interpersonal stressors are related to changes in relationships due to the process of immigration, such as loss of social support, separation from family, decrease in social status, and changes in gender roles. Societal stressors involve "discrimination, political, and historical forces and stressors related to undocumented status" (p.99). This model of acculturative stress underscores that Latinos immigrating to the United States face many challenges on differing levels, from individual to familial, to societal. It is important to consider how the sociopolitical climate, such as recent legislation regarding immigration, may also negatively impact the acculturative stress in the Latino/a population.

As stated, adolescents are not exempt from experiencing acculturative stress. In fact, adolescents' experience of acculturative stress is unique due to their developmental level. For example, adolescents may encounter acculturative stress from their peers, during a developmental period in which belonging to peer groups becomes increasingly important (Romero, Martinez, and Carvajal, 2007). Members of one's culture of origin may contribute to an adolescent's experience of acculturative stress by pressing the adolescent on how well she or he retains the culture of origin. In fact, critical terms like "oreo" may be used by peers from one's own ethnic group to suggest that an individual is acting too "White" (LaFromboise et al.,1993; Romero et al., 2007a; Romero, Carvajal, Valle, & Orduña, 2007;). Further, the rate of acculturation may differ between parents and their adolescents, creating another factor of acculturative stress for the adolescents (Romero et al., 2007b). To illustrate, immigrant children may acclimate to the dominant culture faster than their parents, which may cause conflicting values to emerge within the family. Adolescents face pressure from their families to acculturate less rapidly, and they face pressure the dominant culture to adapt more quickly. Romero and colleagues (2007) further suggest that speaking English at school and Spanish at home may create the stress of having to speak both languages fluently, adding yet another dimension of acculturative stress.

One's perceived social status may impact the amount of acculturative stress that she or he experiences. For example, Berry (2003) explained that because people belonging to ethnic minority groups have less power, they experience more pressure to acculturate to the majority culture. Romero et al. (2007) indicated that Berry's explanation suggests that people belonging to ethnic minorities experience acculturative stress more than those who belong to the majority culture. Taken together, research has demonstrated that adolescents experience pressure to

conform to the dominant culture and pressure to maintain their culture of origin. This stress comes from different populations (e.g., family, peers) and in different environments (e.g., home and school).

Using factor analysis to validate the Acculturative Stress Inventory for Children (ASIC), Suarez-Morales, Dillon, and Szapocznik (2007) suggested that acculturative stress encompasses two factors in children: perceived discrimination and immigration-related stress. Perceived discrimination was described as both experiences that involved Latino children being excluded because of their cultural group (e.g., "I often feel like people who are supposed to help me are really not paying any attention to me," (p. 221)) and the perceived drawbacks of belonging to their cultural group (e.g., "Because of the group I am, I don't get the grades I deserve," (p. 221)). Immigration-related stress signifies stress related to leaving one's country of origin (e.g., "I don't feel at home in the United States," (p.221)) and adopting a new language (e.g., "People think I am shy, when I really just have trouble speaking English," (p. 221)).

Perceived discrimination and immigration-related stress were also demonstrated in adolescents using the Societal, Attitudinal, Familial, and Environmental Acculturative Stress Scale (SAFE; Roche & Kuperminc, 2012). On this scale, items such as "Because I'm Latino (a), I feel that others don't include me in their activities" loaded on the perceived discrimination (Roche & Kuperminc, 2012, p. 67). Items such as, "It's hard to be away from the country where my family is from." loaded onto the immigration-related stress factor (p. 68). Roche and Kuperminc (2012) hypothesized that more recently immigrated students would report more immigration-related stress and Latino youth born and/or raised in the United States would report more discrimination. In terms of immigration-related stress, participants who immigrated at a later age endorsed higher scores on the immigration-related subscale than those who immigrated

at a younger age. They found, however, that no group differences emerged for discrimination, therefore, those who immigrated recently and those who were born in the United States indicated that they both experienced discrimination-related acculturative stress at a similar level.

Consequences of Acculturative Stress. Researchers have demonstrated that the process of navigating a new, and at times unwelcoming, culture is related to adverse consequences for one's mental and physical health. For example, Romero and colleagues (2007) measured the relationship between bicultural stress and depressive symptoms and risk behaviors such as drug use, violence, drinking alcohol and smoking in Latino adolescents. Using self-report questionnaires, they discovered that bicultural stress was significantly related to such risk behaviors and depressive symptoms, suggesting that acculturative stress can negatively impact one's mental and physical health. These results also highlighted the possibility that adolescents are using risky or unhealthy coping mechanisms to deal with the experience of bicultural stress. Additionally, Romero, Carvajal, Valle, and Orduña (2007) found that adolescents who endorsed more frequent and more intense bicultural stress endorsed more depressive symptoms. Interestingly, this finding was demonstrated across Asian American, Latino/a American, and European American adolescents, demonstrating that acculturative stress has negative mental health outcomes across different ethnicities. Furthermore, researchers have demonstrated that discrimination related acculturative stress has been related to decreased school performance in Latina/o adolescents (Roche and Kuperminc, 2012).

These studies indicate that acculturative stress is distressing for Latino/a adolescents to the point of having negative consequences for mental health, risky behaviors, and even academic performance. However, no study currently exists investigating the role of acculturative stress in the obesity epidemic in Latina/o adolescents. The literature suggests that level of acculturation is

related to obesity. Specifically, the rate of obesity increases the longer that Latinos adolescents remain in the United States. This study seeks to determine whether or not acculturative stress also plays a role in this health disparity.

Cultural Values

By influencing our decision-making, values impact our relationships, education, and health. Many of our values are rooted in our families and cultures of origins. Although Latinas/os in the United States come from many different countries, they share common values resulting from a shared history (Delgado-Romero, Nevels, Capielo, Galván, and Torres, 2013). Among these values is the importance placed on both nuclear and extended family relationships and maintaining their cohesiveness, described as *familismo* (Altarriba and Bauer, 1998; Delgado-Romero et al. in press; Vega 1990). Rinderle and Montoya (2008) note that along with *familismo*, Latinos are traditionally collectivistic, valuing the well-being of the group over the well-being of individuals. *Simpatía*, or the desire for peaceful, agreeable personal relationships, and *allocentrism*, or a tendency to pursue conformity and sacrifice for the wellbeing of the group, are also common values among Latinos (Altarriba and Bauer, 1998; Delgado-Romero et al. 2013). Moreover, *respeto*, or respect for elders and family members, and *personalismo*, a term referring to the value placed on close, personal relationships, are other important values associated with Latino culture. Furthermore, a present-time orientation, as opposed to focus punctuality and future-time orientation, is common in Latino culture (Mezzich, Ruiz, and Muñoz, 1999).

Latinos also share common traditional values regarding gender. For example, men are expected to be the dominant gender and women are supposed to be more subservient (Mezzich, Ruiz, & Muñoz, 1999). *Machismo*, the collective term for Latino gender role expectations for

men, has positive and negative characteristics. On one hand, *machismo* is associated with positive traits such as honor and responsibility to provide for one's household. On the other hand, *machismo* is also associated with negative traits such inhibited emotional expression, infidelity, and aggression. *Marianismo*, or the collective term for Latino/a cultural expectations for women, is connected to purity, submission, and relational fidelity (Delgado-Romero, et al. 2013). Acculturating to a new culture may result in a conflict in cultural values, which may present a challenge for Latinos to determine which values to maintain and which to adapt to align with one's new culture.

Cultural Values and Obesity. To date, this researcher found no studies that examine the relationship between adherence to Latino cultural values and health disparities, obesity included. However, Kaufman and Karpati (2007) conducted ethnographic research on sociocultural values that impact childhood obesity in low-income, Latina/o families living in the neighborhood of Brunswick, Brooklyn, New York. Researchers found that Latina mothers in this neighborhood tended to shop at *bodegas,* or corner stores, rather than supermarkets due to proximity to their homes and the willingness of the storeowner to take credit when mothers were unable to pay the bill. The researchers observed that when storeowners established a personal relationship with the mother, that the mother then became "familiar and trustworthy" (p. 2183). This tendency demonstrates the importance of *personalismo* and its impact on where mothers shopped for groceries. Even though bodegas were more expensive and offered fewer healthy alternatives, the Latina mothers preferred to shop there due to the relationships they had developed with the storeowners.

Additionally, researchers noted that parents tended to engage in "food gratification" (p. 2185), or feeding a child in order to please her or him. This finding highlights the values of

allocentrism and *familismo*, because these families sought to achieve peaceful, cohesive relationships through feeding the children. Interestingly enough, the children of these parents reported that they ate to please their parents, further demonstrating the influence of *familismo* and collectivism in eating habits. This study demonstrated that cultural values may impact decision-making regarding shopping and feeding practices of Latina/o parents. These results also begged the question of whether acculturative stress led parents to engage in food gratification. That is, perhaps parents felt pressured to keep their children happy, or to feed them the latest snacks shown on the television. Conversely, acculturative stress could potentially have encouraged children to eat the food provided by their parents even when they are not hungry for the sake of maintaining peaceful relationships and the pursuit of integration (Berry, 2003).

Rationale for the Current Study

Previous literature indicates that acculturation for Latina/o people is a complicated process that often involves behavioral, psychological and emotional changes. Research demonstrated the longer that immigrants live in the U.S. and are exposed to its "obesigenic" lifestyle, the more likely they are to adopt unhealthy eating and exercise habits (Gorden-Larsen et al., 2003, p. 2030). Additionally, second and third-generation Latina/o adolescents demonstrated a higher rate of obesity, decreased prevalence of exercise, and increased rate of high calorie diets compared to Latinas/os who live outside of the United States (Gordon-Larsen et al., 2003; Kaplan et al. 2004). While we know both acculturation and stress are related to the prevalence of obesity, currently there is no research investigating the role of acculturative stress in the prevalence of obesity in Latina/o adolescents. Therefore, the current study seeks to address the gap in the literature regarding the relationship between acculturative stress and obesity, in

order to better understand the nature of the relationship between acculturation and obesity in the Latina/o adolescent population.

Additionally, the current study seeks to investigate how cultural values intersect with acculturative stress and obesity. Currently, a gap in the literature exists regarding cultural values and obesity in Latinos. Gathering a clear picture of whether Latino adolescents living in the United States maintain their cultural values of origin may result in a clearer picture of the psychological and cultural factors that are impacting certain lifestyle choices such as activity level and food choice. By understanding the factors impacting activity level and food choice, we may better understand how to decrease the rate of obesity in Latino children, resulting in a better quality of life.

The model for the current study is based upon Selye's (1950) General Adaptation Syndrome, which describes the effect of stress on health. Specifically, the effects of stress include damage and defense. The purpose of this study is to determine whether unhealthy lifestyle choices regarding diet and exercise are a function of the effects of acculturative stress in the participants. This study aims to determine whether diet and exercise are part of the defense response, albeit potentially maladaptive, that may be causing damage to the quality of life of the participants. Measuring cultural values will enhance our understanding of the participants' experience of acculturative stress.

CHAPTER 3

Methods and Procedures

Methodology

Given that no studies have previously examined the existence of such a relationship, the current study is an exploratory examination of how acculturative stress, cultural values, and obesity variables relate to one another in the Latina/o adolescent population. Researchers used quantitative methodology to examine the relationship between these three variables. Specifically, researchers examined whether cultural values mediate or moderate the relationship between acculturative stress and obesity. Independent variables were scores on measures of acculturative stress and cultural values measures. Dependent variables were measures of obesity, specifically, Body Mass Index (BMI), Waist Circumference (WC), scores on a self-report of diet, and scores on a self-report of physical activity.

Sample

A power analysis using G*Power revealed that between 68 and 107 participants were needed in order to conduct the proposed study with sufficient power and to detect a medium effect size ($f^2 = .15$; Erdfelder, Franz, and Buchner, 1996). Cohen (1988) suggested that 67 participants were needed. Participants were recruited from agencies that serve the Latino community in Georgia and South Carolina. Some participants were recruited from adolescent substance abuse prevention and treatment programs for Latino/a students. Other participants were recruited from educational agencies that serve Latinos or from churches with Latino congregations. Researchers reached out to established organizations in the community for

participation, in order to foster a spirit of collaboration, and ethically conducted community based research. (Castro, Rios, and Montoya, 2006). With each organization, investigators and the organizations' administrators discussed the best ways to connect with the people served by the organization. Researchers also offered to give back to the organizations by offering educational workshops about nutrition and physical activity. Participants were included in the study if they were between the ages of 12-19, based on the health disparity findings between racial and ethnic groups from the NHANES study (CDC, 2012; Ogden & Carroll, 2010; Ogden et al., 2014). They were also included if they self-identified as Latino/a and could read English or Spanish at a 6th grade reading level.

Data Collection Procedures

Investigators visited the agency to inform the participants and parents about the opportunity to participate in research. Parental consent (for participants under the age of 18) was obtained by attending the program's parent meetings or organizational activities (Appendix A). Then, researchers gave participants assent forms to complete (Appendix B). Participants between the ages of 18-19 signed consent forms on their own behalf (Appendix C). Upon completion of the informed consent/assent forms, participants completed a packet containing a demographic form, a measure of acculturative stress, a measure of cultural values, a measure of diet and a measure of physical activity. Measures in the research packets were counterbalanced to control for order effects. All measures were available in English and Spanish. Those measurements without a Spanish version were translated and back-translated by members of the research team. Participants were given information for local counseling referrals, should they experience stress from participating in this study.

Upon completion of the assessment packet, the researchers measured waist circumference and collected height and weight measurements in order to calculate BMI. Investigators recorded these measurements on a piece of paper with information for a local doctor and information about healthy BMI and healthy WC, should participants have any questions about their measurements (Appendix I). Researchers recorded a unique numeric code on each assessment packet, including BMI and WC, which enabled researchers to keep track of data while maintaining participant confidentiality. Participants had the opportunity to enter a drawing to receive a $25 Visa gift card as an incentive for participation. Additionally, the researchers offered health and wellness programming to the programs for their willingness to participate in the proposed study. Research procedures were approved by University of Georgia's Institutional Review Board (Project # 2013104281).

Instrumentation

Demographic Information: All participants completed a self-report measure asking for demographic information regarding the participants' gender, country of origin, preferred language, and socioeconomic status (Appendix D). The demographic form also asked for the date at which the assessment packet was completed (Capielo, Delgado-Romero & Stewart, 2013).

Acculturative stress was measured via administration of the Bicultural Stressors Scale (Romero and Roberts, 2003). The Bicultural Stressors Scale, a 20-item self-report measure, assessed the stress level that people feel when experiencing stressors related to acculturation or being bicultural (Appendix E). Respondents were asked to respond to a scale of 2 (Not at all Stressful) to 5 (Quite Stressful). Participants could also acknowledge that they have never experienced a particular stressor by marking a question as 1 (Never Happened to Me). This

measure was administered to adolescents of Mexican descent with an internal consistency of α = .93. Specifically, for immigrant-born adolescents, internal consistency was α = .92, and for U.S.-born adolescents, internal consistency was α = .93. A modified version of the scale was also administered to adolescents of European American descent (α = .94), Latino descent (α = .94), and Asian-American descent (α = .95), with acceptable internal consistency among all three ethnic groups (Romero, Carvajal, Valle, & Orduña, 2007).

Cultural values were assessed by administration of the Latino Values Scale (LVS; Kim, Soliz, Orellana, & Alamilla, 2009; Appendix F). Kim et al. designed a measure of enculturation, or the maintenance of one's indigenous cultural values, along specific dimensions of Latino/a cultural values. The LVS is a 35-item self-report (including 14 reverse-scored items) that measured how a respondent aligns with traditional values in Latino culture. Participants rated responses on a 4-point scale (1 = strongly disagree, 4 = strongly agree). The higher the total score on the LVS, the more traditional Latino values the participant holds (Moore, Phelps, Delgado-Romero, & Obasi, 2012). The total LVS score has demonstrated internal reliability of α = .88 and α = .85 in initial validation studies.

For indicators of wellness, researchers measured Body Mass Index (BMI), which is a ratio of one's weight in kilograms to square height in meters (Gordon-Larsen et al., 2003; Ogden et al. 2010). Participants were weighed with an Omron HBF-400 Body Fat Monitor and Scale. Height was measured using a fabric tape taped to a wall. Because the CDC uses BMI to classify children into obese (>95th percentile) and overweight (>85th percentile), measuring BMI in our sample allows for comparison of our findings to those of the CDC regarding the overweight/obese status of Latino/a adolescents nationwide. Researchers also used waist circumferences (WC) as another measure of obesity (Ball, Huang, Cruz, Shaibi, Weigensberg, &

Goran, 2006; Davis et al., 2011). Davis and colleagues (2011) measured WC three times then averaged the score to the nearest .1 cm. In order to ensure accurate readings, researchers followed this example and measured WC three times then averaged the findings to the nearest .01 cm. All of this information was recorded on a sheet twice, with one copy for the participant and one copy for the researcher.

In addition to measuring BMI and WC, researchers assessed dietary habits via the administration of a modified version of the Food Frequency Questionnaire (FFQ; Shannon, Kristal, Curry, and Beresford, 1997; Appendix G). The FFQ, a 28-item self-report measure, assessed how frequently the participant has chosen a healthy food option over the past month. Participants indicated whether they ate a particular food (1) or did not (2) of if the question did not apply to them (3). If they ate that food, they were instructed to respond on a 4 point scale regarding how frequently they consumed it (1 = Usually/Always, 2 = Often, 3 = Sometimes, 4 = Rarely or Never) The higher a participant scores on this measure, the less frequently they are choosing healthier diet options. Cronbach's alpha for the subscales of this measure were between α =.50- .64. Although this scale has low internal consistency, it has been used with diverse ethnic populations and is an efficient way to gauge diet (Kristal, Feng, Coats, Oberman, & George, 1997).

Physical activity was assessed via administration of the *Godin Leisure-Time Exercise Questionnaire*, (GLTEQ; Appendix H) found online at www.commondataelements.ninds.nih.gov (Godin & Shepherd, 1985; Godin, 2011). The GLTEQ asks participants how frequently in the past 7-day period they have engaged in strenuous exercise, moderate exercise, and mild exercise for more than 15 minutes. Participants recorded how many times they have exercised in a free response format. Additionally, the GLTEQ provides a question asking participants how

frequently they have engaged in activity long enough to work up a sweat. To this question, participants are to rate the frequency on a scale of 1 = Often, 2 = Sometimes, and 3 = Never. Godin (2011) reported that the GLTEQ has been correlated with percentile body fat as such ($r = .013$, $p < .0001$) and that "the correct classification as fit or unfit individuals was 69%" (p. 18). Harrison (2010) reported that the GLTEQ has good reliability ($\alpha = .74$-$.81$).

CHAPTER 4

Results

This study's purpose is to determine whether a relationship exists between acculturative stress, cultural values and the following wellness indicators: self-reported diet, self-reported exercise, Body Mass Index (BMI), and Waist Circumference (WC). This chapter will describe the data analysis processes and results. The first section of the chapter will detail the demographic characteristics of the study participants. Then, descriptive statistics will be provided along with the correlations between variables related to the research questions. Finally, results of the data analysis regarding the research questions will be given. Data were analyzed using IBM SPSS 22.

Demographic Information

Participants were recruited from metropolitan Atlanta, southeast Georgia, northeast Georgia, and upstate South Carolina (N = 69). We recruited from 5 different sites, 2 churches, 2 educational organizations, and 1 Latino mental health organization. Approximately 65% of our sample was recruited from Georgia, and 35% was recruited from South Carolina. Based on the U.S. Census Bureau's classification of urbanized and rural areas (2014; U.S. Department of Health Resources and Service Administration, 2014), 17.39% of our participants were recruited from rural areas, and 82.61% were recruited from urbanized areas. All participants self-identified as Latina/o. Participants' ages ranged from 12 to 19 (M = 15; SD = 1.91). In terms of gender, 51% identified as female and 49% identified as male. When asked where they were born, 63.77% of participants responded that they were born in the U.S. (n = 44), 24.64% responded

Mexico (n = 17). The remaining participants (n = 8; 11.59%) responded that they were born in Central and South America (i.e., El Salvador, Dominican Republic, Uruguay, Costa Rica, Colombia, and Honduras). This information was collapsed into Central and South America to protect participants' confidentiality. Of those who responded to this question (77%), the length of time lived in the United States ranged from 9 months to 18 years (M = 12.5; SD 3.36)

Regarding parents' level of education, 53.62% of participants stated that their parents had completed high school or less (n = 37), 5.80% stated that their parents completed a bachelor's degree (n = 4), 5.80% stated that their parents completed a Masters degree or higher (n = 4), 2.90% of participants indicated that their parents completed some college or an associates or technical degree (n = 2), and 31.88% did not respond (n = 22).

Concerning income level, 14.49% reported that their parents' average income was less than $9,999 per year (n = 10), 13.04% reported it ranged from $25,000-34,999 (n = 9), 10.14% reported it ranged from $10,000-24,999 (n = 7), 8.70% reported it ranged from $25,000-34,999 (n = 6), 4.35% reported it ranged from $50,000-75,000, and 49.28% did not respond (n = 34). Regarding parental income and education level, participants who did not respond claimed to not know this information. As previously mentioned, all measures were available in English and Spanish. In this sample, 91% of participants chose to complete English measurements. Table 1 also includes demographic information.

Regarding anthropometric measurements, participants' BMI ranged from 15.10 to 48.40 (M = 25.45; SD = 5.76). Their WC ranged from 26.45 to 59.00 (M= 35.18; SD = 5.11). Participants recruited from rural environments had a higher mean BMI (29.83) and WC (38.43) compared to those recruited from urbanized areas, whose average BMI was 24.53 and WC was 34.49. Those born in the United States had a mean BMI of 25.91, those born in Mexico had a

mean BMI of 24.11, and those born in Central and South America had a mean BMI of 25.79. Comparison of means of WC revealed that those born in the United States had a higher WC (35.55 inches) compared to those born in Mexico (34.47 inches) and Central and South America (34.62 inches).

Summary of Demographic Data. Comparison of the means of demographic questionnaire revealed that the average participant was a 15-year old female who was classified as overweight (World Health Organization, 2014) and whose waist circumference was slightly larger than the recommended healthy waist size (NHLBI, 2014). The highest percentage of respondents indicated that their parents have obtained a high school level education or less and made approximately $9,999 or less annually. Based on their preference for completing the research measurements, the average participant preferred English to Spanish.

Table 1

Demographic Information

Variable		N (%)
Gender	Male	35 (51%)
	Female	34 (49%)
Ethnicity/Country of Origin	United States	44 (63.77%)
	Mexico	17 (24.64%)
	Central and South America	8 (11.59%)
Parental Education Level	High School or Less	37 (53.62%)
	Some College/Associate or Technical Degree	2 (2.90%)
	Bachelors Degree	4 (5.80%)
	Master's Degree	4 (5.80%)
	Did Not Answer	22 (31.88%)
Income Range	Less than $9,999	10 (14.49%)
	$10,000-$24,999	7 (10.14%)
	$25,000-$34,999	6 (8.70%)
	$35,000-$49,999	9 (13.04%)
	$50,000-$75,000	3 (4.35%)
	Did Not Answer	34 (49.28%)
	Mean	SD
Age	15	1.91
BMI[a]	25.45	5.76
WC[b]	35.18	5.11

[a]BMI = Body Mass Index; [b]WC = Waist Circumference

Preliminary Analyses

In order to determine reliability of the measures used for this particular sample, reliability analysis using Cronbach's Alpha was conducted. Table 2 contains the mean scores and standard deviations for all measures used, along with the Cronbach's alpha statistics for the measures. Means and Standard Deviations for the biometric measures are also included.

Acculturative stress. Acculturative stress was measured using the Bicultural Stressors Scale (BSS). Participants' responses to questions regarding experiences of stress were scored on a 0 (Never Happened to Me) to 4 (Quite Stressful) scale, and then their scores were averaged to obtain a total score. Average scores could range from 0-4. The mean score on the BSS was 1.18 and the Standard Deviation was .60. Cronbach's alpha for the BSS indicated strong internal consistency (α= .83) for this sample. Comparison of means revealed that those born in Central and South America had a slightly higher mean BSS score (1.24) compared to those born in Mexico (1.22) and the United States (1.16). Further, those recruited from a rural area endorsed a lower mean BSS score (1.15) than those recruited from urban areas (1.19).

Cultural Values. Participants' adherence to traditional Latino values was measured using the Latino Values Scale (LVS; Kim et al., 2009). Participants' responses on a 0 (Strongly Disagree) to 4 (Strongly Agree) were summed in order to obtain a total score. Total scores could range from 35-140. The mean score on the LVS was 95.92 and the Standard Deviation was 1.41. For the LVS, analysis of reliability indicated strong internal consistency (α= .83). Additionally, participants born in Central and South America had a higher mean LVS score (99.75) compared to those born in the United States (95.67) and Mexico (94.77). When examining differences in recruitment sites, those recruited from rural areas had a higher mean LVS score (100.74) than those recruited from urbanized areas (94.90).

Diet. Self-reported diet was measured via administration of the Kristal Food Frequency Questionnaire (FFQ; Shannon & Kristal, 1997). Participants were asked whether they had eaten certain foods in the past month, then were asked how frequently they chose a lower fat option. Participants' scores were based on their responses to questions that loaded on specific factors including Substitution (Factor 1), Modify Meat (Factor 2), Avoid Frying (Factor 3), Replacement

(Factor 4), and Avoid Fat (Factor 5). Responses for each factor were totaled, then the number of questions answered are added to each factor's total score. These numbers were summed and divided by the number of factors (5). Scores could range from 0-18.2. A higher score was indicative of a diet with higher fat content. For our sample, the mean score on the FFQ was 11.45 and the Standard Deviation was 3.37. Cronbach's alpha for the FFQ in the current study scale was $\alpha = .76$. When looking at different groups, results showed that those from a rural area reported a lower mean Kristal score (11.32) compared to those recruited from urbanized areas (11.47). Regarding country of origin, those born in Central and South America had a higher mean Kristal score (11.8) than those born in the U.S. (11.66) and Mexico (10.72).

Exercise. Participants' exercise habits were measured via administration of the Godin Leisure-Time Questionnaire (GLTEQ; Godin, 2011). Participants were asked to describe how many times per week they engaged in strenuous, moderate, and mild exercise. Total scores are obtained by multiplying the number of times participants' engaged in strenuous exercise by 9, then multiplying the moderate response by 5, and the mild exercise by 3. These three numbers are added to provide a total score that is translated to METs (Godin & Shephard, 1985; Godin 2011). One participant did not complete this measure, and there was an outlier for this measure. For this analysis, there were 67 participants. The mean score on the Godin was 55.14 METs and the Standard Deviation was 37.71. Cronbach's alpha for this scale demonstrated strong internal consistency ($\alpha = .80$). Participants were also given an opportunity to report how many times per week they exercise enough to work up a sweat. In this study, 32.8 % of people reported breaking a sweat often, 50.8% stated that they sometimes broke a sweat, and 15.94 % reported never breaking a sweat during a 7-day week. Examining different groups of participants revealed that those recruited from rural areas reported more average exercise (70.78) compared to those

recruited from urbanized areas (51.79). Comparison of means of country of origin indicated that those born in the U.S. reported more weekly exercise, on average (58.54), compared to those born in Mexico (50.12) and Central and South America (47.54).

Missing Data. Missing data ranged from 1% for cultural values to 3% for the BSS scale. Based on Little's MCAR test, all missing data were found to be Missing Completely at Random (Schlomer, Bauman, & Card, 2010). Data were imputed based on Estimation Maximization, which allows for completing data sets for testing internal reliability of the measures. Then, scores were recalculated based on the completed data sets. Information regarding missing data for each scale is included in Table 2.

Table 2

Descriptive and Reliability Statistics for Predictor and Outcome Variables

Predictor Variables	M	SD	Cronbach's α	% Missing Data
Bicultural Stressors Scale English	1.18	.60	.83	3
Latino Values Scale	95.92	1.41	.83	1
Outcome Variables	**M**	**SD**	**Cronbach's α**	**% Missing Data**
BMI	25.45	5.76	--	--
WC	35.18	5.11	--	--
Kristal Food Frequency Questionnaire	11.45	3.37	.76	2
Godin Leisure Time Exercise Questionnaire	55.14	37.71	.80	2

Primary Analyses

Hierarchical regression analyses were used to test moderation, and multiple linear regression analysis was used to test mediation effects. Researchers analyzed the data to determine whether the data violated assumptions of regression.

Outliers. Residual plots were analyzed, and it was determined that there were outliers in both BMI and WC. This particular outlier was not due to measurement error, but instead, represented a unique observation. Thus, it was considered to be a "true outlier" (Pedhazur, 1997, p.43) and was deleted from analysis of these variables. Another outlier was determined to exist for the Godin and was also deleted from analysis.

Normality. Tests of skewness revealed that the data for the BSS demonstrated a significant positive skew (Field, 2013). Therefore, the data for this variable were transformed using a square root transformation. No other tests for skew and kurtosis were found to be significant, suggesting that the rest of the data met the assumption of normality.

Homoscedasticity. Analysis of residual plots revealed that the points scattered consistently around the mean of the residuals. Therefore, the data maintained the assumptions of linearity and homoscedasticity.

Collinearity. In order to assess collinearity between independent variables, researchers conducted Person Product Moment correlations (Pedhazur, 1997). None of the correlations between predictor variables were found to be significant, suggesting the absence of collinearity between independent variables.

Correlations. Bivariate correlations were calculated. No significant correlations were found between BSS and the dependent variables. Similarly, LVS scores were not significantly correlated with diet, BMI, and WC. A significant correlation was found between Cultural Values

and Exercise ($r = .34$; $p < .01$). Additionally, a significant correlation was detected between BMI and WC ($r = .89$; $p < .01$), suggesting consistent measurement of these variables. Correlations between predictor and outcome variables are displayed in Table 3.

Table 3

Correlations Between Predictor and Outcome Variables

	1	2	3	4	5	6
1. Acculturative Stress	--	.12	-.05	-.03	-.07	-.13
2. Cultural Values	.12	--	.00	-.03	.15	.34**
3. BMI	-.05	.00	--	.89**	-.06	-.02
4. WC	-.03	-.03	.89**	--	-.10	-.03
5. Diet	-.07	.15	-.06	-.10	--	.10
6. Exercise	-.13	.34**	-.02	-.03	.10	--

**$p < .01$

Moderation Analysis

This study's hypothesized that a significant relationship exists between acculturative stress, cultural values, and indicators of wellness (BMI, WC, self-reported diet, and self-reported exercise). Given the exploratory nature of this study, researchers tested the possibility of both moderator and mediator effects. For moderation analyses, hierarchical regression analyses were conducted to determine if acculturative stress predicted BMI, WC, self-reported diet, and self-reported exercise when Latino adolescents endorsed more traditional cultural values. In other words, did acculturative stress predict wellness indicators for those who endorsed more traditional cultural values? Or, how did cultural values affect the relationship between acculturative stress and outcome variables (Field, 2013)? Specifically, when examining the presence of a moderation affect, we were aiming to determine if cultural values affected the strength of the relationship between acculturative stress and the outcome variables (Field, 2013; Frazier, Tix, & Baron, 2004). Additionally, we tested whether acculturative stress moderated the

relationship between cultural values and the wellness indicators. Essentially, we investigated whether cultural values predicted wellness indicators for those who endorsed greater acculturative stress. Before completing the moderation analyses, scores on the BSS and LVS were mean centered to decrease problems with multicollinearity between variables (Frazier et al., 2004).

Acculturative stress x cultural values interaction. Researchers sought to use hierarchical linear regression analysis to examine whether cultural values moderated the relationship between acculturative stress and indicators of wellness. However, because acculturative stress did not significantly correlate with the dependent variables, no further regression analyses were necessary.

Cultural values x acculturative stress interaction. As previously stated, because scores on the LVS were not significantly related to diet, BMI, and WC, no further regression analyses were necessary for these variables. To test whether cultural values predicted exercise when participants endorsed more acculturative stress, hierarchical regression was completed. For this analysis, researchers created a cross product for the interaction term. LVS scores were entered first, then acculturative stress, then the interaction term. This analysis yielded a significant main effect for cultural values on exercise with a small to medium effect size ($F(1, 65) = 8.37$, $p = .01$; $f^2 = .12$), a significant medium effect for the relationship between cultural values, acculturative stress, and exercise ($F(1, 64) = 5.28$, $p = .01$; $f^2 = .16$), and between cultural values, acculturative stress, and the interaction term ($F(1, 63) = 3.50$, $p = .02$, $f^2 = .16$). However, only the cultural values correlation coefficient was significant ($t = 2.95$, $p < .01$, $r = .34$.; Field, 2013). Because no other coefficients were determined to be statistically significant, no moderating effect was detected. However, these analyses revealed that those who endorsed

more traditional cultural values also endorsed more weekly exercise. Table 4 details the results of these analyses.

Table 4

Hierarchical Linear Regression Testing Moderating Effects of Acculturative Stress on Cultural Values and Exercise

	Exercise			
Predictor	B	SE B	β	*p*
Step 1 Cultural Values	1.08**	.37	.37	.00
Step 2 Acculturative Stress	-20.10	14.06	-.17	.16
Step 3 Acculturative Stress x Cultural Values	.38	1.37	.03	.78
Total R^2	.14			

** $p < .01$

Mediation Analysis

We were also interested in investigating whether cultural values mediate the relationship between acculturative stress and BMI, WC, self-reported diet, and self-reported exercise. Mediation analysis refers to investigating whether a specific variable, in this case cultural values, explained the relationship between a predictor and an outcome variable, in this instance, acculturative stress and wellness indicators, respectively (Frazier, Tix, & Baron, 2004). While examining the moderation effect determined how acculturative stress and cultural values interact to predict scores on the outcome variables, mediation analyses involved determining whether the

relationship between acculturative stress and the wellness indicators is explained by each of their relationships to cultural values (Field, 2013). Further analyses were completed to test whether acculturative stress mediated the relationship between cultural values and the outcome variables.

Analyzing the potential mediation effects of cultural values on the relationship between acculturative stress and wellness indicators. Examining the relationship between variables further, researchers questioned whether traditional values explained the relationship between acculturative stress and the indicators of wellness measured. However, similar to the moderation analysis, because acculturative stress was not significantly related to the dependent variables, no mediation analysis was conducted.

Analyzing the mediating effects of acculturative stress on the relationship between cultural values and wellness indicators. Multiple linear regression analysis was completed to determine whether acculturative stress explains the relationship between cultural values and exercise. First, exercise regressed upon cultural values. A significant effect was found to suggest that cultural values predict exercise behaviors ($F (1, 65) = 8.37$, $p = .01$; $f^2 = .12$). To test the moderation effect, acculturative stress was regressed upon cultural values. Then, exercise was regressed upon cultural values and acculturative stress. No significant relationship was found between acculturative stress and cultural values, indicating that acculturative stress does not moderate the relationship between cultural values and exercise. See also Table 5 for the description of the results of this particular analysis.

Table 5

Test of Moderation Effect of Acculturative Stress on the Relationship Between Cultural Values and Exercise

Steps in the Model	*B*	*SE B*	95% CI	β
Step 1				
Outcome: Exercise				
Predictor: LVS	.99	.34	[.30, 1.67]	.34**
Step 2				
Outcome: BSS				
Predictor: LVS	.01	.01	[-.01, .02]	.11
Step 3				
Outcome: Exercise				
Mediator: BSS	-9.74	6.52	[-22.75, 3.28]	-.18
Predictor: LVS	1.04	.34	[.37, 1.71]	.36**

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

Secondary Analysis

A significant main effect was found between cultural values and self-reported exercise. Therefore, our results suggested that the more traditional values a person holds, the more likely he or she is to engage in exercise. This relationship was determined to have between small to medium effect size ($f^2 = .12$; Cohen, 1988; Cohen, 1992). Our analysis indicated that traditional Latino cultural values account for 12% of the variance in exercise.

Additionally, further analysis revealed that both acculturative stress and cultural values may predict exercise behaviors (F (2, 64) = 5.38; $p = .01$; $f^2 = .16$). However, further analysis of regression coefficients revealed that adding acculturative stress to the model does not yield a significant regression coefficient when controlling for the effects of cultural values (Pedhazur, 1997).

CHAPTER 5

Discussion

This chapter will summarize the study's purpose and findings. Then, conclusions and implications of the results will be discussed, including strengths, limitations, and future directions of the study.

Summary

Childhood obesity has been shown to affect ethnic minorities, including Latino adolescents, at a disproportionate rate when compared to their White counterparts (Ogden, Caroll, Curtin, Tabak, & Flegal, 2010). This health disparity warranted investigation to determine what systemic factors may be impacting its prevalence in order to promote wellness in this community. Previous research demonstrated inconsistent results regarding acculturation and obesity. However, the literature has shown that stress and obesity were related. Therefore, the current study aimed to examine the relationship between acculturative stress and indicators of wellness in Latina/o adolescents in order to determine whether acculturative stress is a psychological factor that predicts the wellness indicators associated with obesity in Latino/a adolescents. We additionally sought to examine how cultural values impact the level of acculturative stress and the rate of obesity in Latino/a adolescents. We hypothesized that acculturative stress would predict Body Mass Index (BMI) and Waist Circumference (WC) along with less healthy dietary choices and less reported exercise. Further, we hypothesized that more traditional cultural values would either moderate or mediate the relationship between acculturative stress and indicators of wellness in Latina/o adolescents.

In this study, researchers used a combination of paper and pencil questionnaires with anthropometric measurements to measure constructs of interest. Children aged 12-19 who self-identified as Latino/a and could read English or Spanish at a 6th grade reading level were recruited through Latino/a serving organizations in the community to participate. After parental permission and minor assent were given, participants completed the *Bicultural Stressors Scale* (BSS; Romero & Roberts. 2003), the *Latino Values Scale* (LVS; Kim et al., 2009), the *Godin Leisure-Time Exercise Questionnaire* (Godin & Shephard, 1985; Godin 2011), and the *Kristal Fat-Related Diet Habits Questionnaire* (Shannon, et al., 1997). Then, researchers measured participants' height, weight, and waist circumference in order to obtain BMI and WC.

Summary of findings. The sample of this study was comprised of 69 Latino/a participants aged 12-19 (M = 15; SD = 1.91). The sample was 51% female, and the majority of the participants were born in the U.S. (n = 44) to parents who earned a high school diploma or less (approximately 54%). The majority of our sample was recruited from Georgia (approximately 65%) and from urbanized areas (82.61%). Participants' mean BMI was 25.43 and the mean WC was 35.18. Those recruited from rural areas had a higher mean BMI and WC, while those born in the US had a slightly higher mean BMI and WC compared to those born in other countries.

In terms of the paper and pencil assessments, participants endorsed a Mean level of acculturative stress of 1.18 with a Standard Deviation of .60. Further analysis revealed that participants born outside of the United States endorsed a higher mean BSS score than those in the United States. Additionally, those recruited from urbanized areas endorsed less bicultural stress than those from rural areas.

The Mean score on the LVS was 95.92 with a Standard Deviation of 1.41. Participants born in Central and South America endorsed more traditional cultural values, as measured by mean LVS score, compared to those born in the United States and Mexico. Additionally, participants from rural areas also endorsed more traditional Latino values than those from urbanized areas. Regarding diet, the Mean score for the FFQ was 11.45 with a Standard Deviation of 3.37. Comparison of means revealed that participants from rural areas endorsed healthier diets than their counterparts from urban areas. Participants born in Mexico endorsed healthier diets than those born in the United States and Central and South America. The Godin yielded a Mean score of 55.14 and a Standard Deviation of 37.71. Participants from rural areas endorsed higher mean weekly exercise compared to those from urbanized areas. Those born in the United States endorsed more average weekly exercise compared to those born outside the United States. All paper and pencil measurements demonstrated strong internal consistency, suggesting reliable instrumentation. (Nunnally & Bernstein, 1994).

Obesity, defined as having a BMI $\geq 95^{th}$ percentile (Ogden, Carroll, & Flegal, 2014), was more prevalent in our sample (31.88 %) when compared to other adolescents in Georgia (12.4%), South Carolina (16.7%; CDC, 2012), and Latino adolescents nationwide (22.6%). Additionally, 23.19 % of our sample were classified as overweight, or having BMI $\geq 85^{th}$ percentile, compared to 14.8% of adolescents in Georgia and 15% in South Carolina. Further, the rate of overweight and obesity in our sample (55.07%) was greater when compared to that of Latinos nationwide (38.1%). Regarding waist circumference, 73.91% of our sample had waist circumferences that were greater than the mean when compared to their same age and sex peers from the NHANES from 2007-2010 (Fryar, Gu, & Ogden, 2012).

Regarding diet, the mean score for participants in our sample was 11.45. Previous research has yielded higher mean scores on the Kristal FFQ (Shannon, Kristal, Curry, & Beresford, 1997) than the scores obtained from this sample. This finding suggested that our sample reported diets with less fat content than initial validation studies. However, this finding should be interpreted with caution, as it may represent struggles with recall instead of actual dietary habits.

Measurement of exercise behavior indicated that our sample reported more weekly exercise (M = 55.14) compared to initial validation studies (M = 45.8; Godin & Shephard, 1985). The total score equaled the amount of METs, or metabolic equivalent, expended each week (U.S. Department of Health and Human Services, 2008), which referred to the amount of energy expended. Using the Godin's directions of how many times a person engaged in exercise for at least 15 minutes, our results suggested that participants in our sample, on average, achieved 827.1 MET minutes per week (U.S. Department of Health and Human Services, 2008). The Physical Activity Guidelines published by the U.S. Department of Health and Human Services (HHS) reported that the recommended 150 minutes of moderate intensity exercise weekly for adults is equivalent to 500 MET minutes weekly. For children, HHS recommended 60 minutes of moderate-vigorous intensity exercise daily, which calculates to approximately 1400 MET minutes weekly. Comparing our sample to the HHS Guidelines for Physical Activity, our sample reported expending, on average, 572.9 MET minutes less than recommended for children aged 2-17. Participants aged 18-19, based on the mean score, met the recommended 500-1,000 weekly MET minutes for adults.

Hierarchical and multiple linear regression analyses revealed that researchers failed to reject the null hypothesis that no significant relationship exists between acculturative stress and

wellness indicators. Because no significant relationship was found between acculturative stress and wellness indicators, researchers were unable to reject the null hypothesis regarding the moderating and/or mediating effects of cultural values.

Further analyses revealed that cultural values did not predict BMI, WC, or diet. However, exploratory analysis of the data revealed a significant relationship between the LVS and the Godin (F (1, 65) = 8.37, p = .01; f^2 = .12), indicating that the more traditional values endorsed, the more weekly exercise reported. When acculturative stress and the interaction term were added to this model, the relationship remained significant. However when testing for moderation effects, analysis of the regression coefficients suggested that only cultural values remained a significant predictor of exercise behaviors, when controlling for the effects of acculturative stress and the interaction term. Regarding mediation, a significant relationship was not detected between acculturative stress and cultural values, indicating that acculturative stress did not mediate the relationship between cultural values and exercise.

Differences in mean scores were found between those recruited from rural areas and those from urbanized areas. Regarding country of origin, mean differences were also found between participants born in the United States, Mexico and Central and South America. Comparison of means provides interesting descriptive data regarding these participants. However, more research is needed to test whether these differences are significant.

Conclusions

The current study demonstrated a significant relationship between cultural values and self-reported exercise, with more traditional Latino values predicting increased exercise. Adherence to traditional Latino values may protect against adopting the "obesigenic" culture of being sedentary during leisure time, which has been observed in American culture (Gordon-

Larsen, et al., 2003). Connecting to the previous literature, the traditional Latino value of *familismo* may factor into health behaviors (Delgado-Romero, Nevels, Capielo, Galván, & Torres, 2013). *Familismo*, the importance placed on family relationships and cohesiveness, may impact one's view of the importance of maintaining a healthy lifestyle. This hypothesis should be an area of future research.

Overweight and obesity were found to be more prevalent in our sample when compared to adolescents statewide and Latinos nationwide, based on measures of BMI and WC. Differences were discovered regarding self-reported diet and self-reported exercise when compared to initial validation studies of the FFQ and the Godin, respectively. Specifically, results of this study indicated that participants were eating foods with high fat content less frequently than those in previous studies (Shannon, et al., 1997). However, this discrepancy may be influenced by difficulty recalling one's dietary habits over the past month (Kristal, 2005).

Additionally, participants in our sample reported more exercise than those in initial validation studies (Godin & Shephard, 1985). This difference may be related to participants in this sample engaging in more physical activity than those in the initial validation study. It may also be a reflection of age difference. Because the average age was higher in the initial validation study (M = 30.8) than in the current study (M= 15), participants in our sample may have more availability to exercise than those in the initial study. Further, some of the organizations in which participants were involved had exercise-specific programming (i.e., soccer programs, dance programs, community service opportunities such as construction projects). It is possible that belonging to these organizations may have increased the likelihood of physical activity for these participants. Conversely, when comparing our sample's rate of energy expended during exercise to that which is recommended by the HHS (2008), our sample fell short of the recommended

guidelines for children. This finding indicated that increased physical activity should be a focus of future interventions aimed at improving Latino/a health outcomes for adolescents.

Based on data collected from our sample, there was not sufficient evidence that acculturative stress predicts BMI, WC, dietary habits, or exercise behaviors. Further, data did not yield significant results to suggest that cultural values predict BMI, WC, and diet. Results did suggest that the more traditional Latino values a participant held, the more likely he or she was to report more exercise. Because results indicated that participants were not meeting the recommended guidelines for exercise (HHS, 2008), our findings demonstrated that targeting adherence to traditional Latino cultural values could be a focus of culturally sensitive interventions aimed at increasing physical activity in this population.

There are several possible reasons why we were unable to reject the null hypotheses. Participants endorsed relatively low stress related to being bicultural. This low endorsement may be due to the fact that most participants were born in the U.S., thus had exposure to U.S. culture for their entire lives. Additionally, because participants were recruited through Latino serving organizations, it is possible that involvement in these organizations buffered acculturative stress for our sample. Impression management, or reluctance to honestly disclose stressors may have influenced the low stress endorsement, as well.

Further, the sample size in the current study is relatively small. Therefore, the data may have been underpowered to detect smaller effect sizes. Although instrumentation in this study met recommended thresholds for internal consistency, (Nunally & Bernstein, 1994) other than the FFQ, Cronbach's alphas for our samples were lower than those reported in other validation studies (Godin & Shephard, 1985; Shannon et al., 1997; Romero & Roberts, 2003; Kim et al., 2009), which may have affected the data's lack of significance regarding the hypotheses tested.

Overall, data collected from the current study reinforced the problem of obesity for Latino/a adolescents living in the southeastern United States. This study showed that high BMI and WC are prevalent in this population. Based on these findings, researchers, clinicians, and policymakers should continue developing culturally sensitive interventions to reduce the prevalence of obesity in this population. Our study further suggested that professionals should focus their efforts on emphasizing and embracing Latino cultural values when developing interventions to increase exercise.

Strengths. Regarding strengths, the current study worked to better understand an important health disparity for this population, which reflects counseling psychology's values of multiculturalism, social justice, and prevention (Tucker, Ferdinand, Mirsu-Paun, Herman, Delgado-Romero, van den Berg, & Jones, 2007). Working with Latinos from Georgia and South Carolina is a strength, because most research studies involving Latinos recruit participants from other areas. Therefore, our study describes a unique and emerging Latino population, which may be helpful in guiding future research. Connecting counseling psychology with health promotion research aligns with a growing emphasis on integrated health care. This study also attempted to address a gap in the literature by seeking to understand whether a specific type of stress impacts wellness in Latino adolescents. Researchers found a significant relationship between cultural values and self-reported exercise. A review of current literature indicated that no other research has been published demonstrating this effect with this population. Another strength lied in the use of the FFQ and Godin on an adolescent population with adequate internal consistency. To this researcher's knowledge, most studies using these scales are tested on adults. Therefore, administering these scales with adolescents added a unique aspect to the literature on these scales.

Additionally, this study used anthropometric measurements, rather than relying solely on self-report to describe indicators of wellness. Participants were recruited from the community, instead of academia (e.g., Latino/a university students). Connecting the university and the community is an area of new research, and the current study added to the literature in this area (Castro, Rios, & Montoya, 2006). The cultural sensitivity of this study exhibited strength, as evidenced by provision of all paper and pencil measures in both English and Spanish, connecting with participants via culturally sensitive organizations, and the provision of nutrition education to give back to the organizations who allowed researchers to recruit participants.

Limitations. This study was correlational; it does not prove causation but described the relationship between acculturative stress, cultural values, and indicators of wellness in Latino/a adolescents. Additionally, we utilized a convenience sample, so the results have limited generalizability. Although the sample was representative of the Latino community in terms of gender, it was not representative of the Latino community based on country of origin, or language preference (Delgado-Romero, et al., 2013; U.S. Census Bureau, 2013). Specifically, most of the participants in this study were born in the United States, when most Latinos in the United States are from Mexico. Further, in our sample, 91% of the participants preferred English, compared to 75% of Latinos who note that they speak both English and Spanish (Delgado-Romero, et al., 2013). This convenience sample also limits generalizability in the following ways: the participants lived in states with strict immigration legislation, suggesting participants may have been apprehensive about collaborating with government funded universities (Moore, et al., 2012), participants were recruited from states where less than 2% of the U.S. Latino population lives, and this population may differ from other Latinos living in other regions throughout the United States (Delgado-Romero et al., 2013).

We worked with participants who participated in programs that celebrated Latino cultural values, which may have affected the results on the measures. Specifically, it is possible that belonging to Latino serving organizations buffered stress related to being bicultural. Or, it may be possible that participants who chose to participate in such organizations experience less acculturative stress than those who did not choose to participate in these organizations. Another possibility is that because these organizations embrace Latino cultural values, participants may feel more connected to those values than other Latino adolescents.

We administered self-report measures of diet and exercise to participants. Although they yielded much information, these instruments may not have been as sensitive to variability in diet and exercise due to difficulties in recalling exact diet and exercise habits (e.g., Kristal, 2005). In the case of the current study, it is possible that because caregivers typically shop and prepare meals for the family, recall was further limited in our sample. Notably, Kristal observed that the FFQ is often not correlated with anthropometric measurements such as BMI, as was observed in the current study. Kristal (2005) attributed the lack of correlation to a complex relationship between diet and such measurements. During adolescence, when hormones and bodies are changing, it is possible that the complexity regarding the relationship between diet and anthropometric measurements was even greater for our sample. Nutrition workshops were offered to organizations who allowed us to collect data at their sites. Sometimes, we collected data from participants after providing the nutrition and physical activity workshops, which may have influenced participants' reports on diet and physical activity measures. We did not measure response bias. Despite these limitations, however, we believe that the results of this study give much information about how to direct future research concerning obesity in the Latino adolescent population.

Implications

These findings implied that adhering to traditional Latino cultural values may be a protective factor for maintaining healthy physical activity habits, which has been suggested in previous research (Hayes-Bautista, 2002; Acevedo-Garcia & Bates, 2008). A review of current literature suggested that no other published studies have directly studied the relationship between cultural values and exercise behaviors with Latino adolescents, despite Hayes-Bautista's (2002) assertion that culture may factor into epidemiological paradoxes for Latinos. However, the current study's finding that more traditional Latino values predicted more self-reported exercise begged the question of whether this finding has any implications for the research on the Latino Health Paradox regarding obesity. This particular health paradox observed that first generation Latino immigrants are less likely to be obese and/or compared to their second-generation counterparts (Acevedo-Garcia & Bates, 2008). Acevedo-Garcia and Bates (2008) suggested that in order to demonstrate a health paradox, there must be a reference group to which results are compared. Therefore, in order to determine whether the findings of this study have implications for the Latino health paradox, it would be important to replicate the study and compare results between U.S. born Latinos to foreign-born counterparts.

Previous research by Abraído-Lanza, Chao, and Flórez (2005) found that greater acculturation was associated with increased recent exercise. This finding was somewhat contradictory to the literature regarding the prevalence of obesity in Latinos. Connecting this finding with the finding of the current study, as Latinos acculturate, it would be important to maintain traditional Latino cultural values while also embracing the new culture's values. Doing so would potentially aid in maintaining physical activity habits, whereas, completely assimilating into U.S. culture at the expense of Latino culture might decrease the frequency of physical

activity. Additionally, it may be helpful to foster strong social networks for Latino adolescents, as these may also be protective for Latinos in terms of health paradoxes (Acevedo-Garcia & Bates, 2008).

Research implications include a focus on cultural competence of health care providers. For example, although Tucker et al. (2007) noted that members of ethnic minority populations report dissatisfaction and disenfranchisement with their medical care, Betancourt and colleagues (2005) reported that increased cultural competence among health care providers positively impacted health outcomes for their patients. Because cultural competence helps health outcomes, it may also manage health care costs, which is why cultural competence has become a focus for health care providers and insurance providers (Betancourt, Green, Carrillo, & Park, 2005). Perhaps findings similar to those of the current study could provide guidance to health care providers. For example, if a physician were recommending more physical activity for a Latino/a patient in a predominantly Latino community, it may be helpful for that doctor to attempt to connect with and encourage Latino cultural values. Better yet, it would be culturally competent for a health care provider to assess what values are important to patients and clients in order to draw upon those values to motivate more positive health behaviors. Doing so might prevent health care providers from relying on stereotypes about cultural values.

This research also holds implications for counseling psychologists. Results demonstrated the presence of a health disparity for this population regarding BMI, WC, and exercise. Counseling Psychology's commitment to valuing diversity, social justice, and prevention underscores the field's responsibility to continue research health disparities for historically marginalized populations, such as Latino/a adolescents (Packard, 2009). Munley, Duncan, McDonnell, and Sauer (2004) noted that over time, Counseling Psychology has been a leader in

incorporating diversity and multiculturalism into its values, research, and education. Because counseling psychologists have been trained on cultural sensitivity and social justice, our training separates us from other disciplines and uniquely qualifies us to involve ourselves with health psychology, particularly health psychology with underrepresented groups (Nicholas & Stern, 2011). We have a responsibility to ethically and competently engage with these communities in order to research health disparities and to work toward improving their quality of life. Doing so may take the form of engaging with the communities directly to deliver culturally responsible, strengths-based interventions, training health care providers on culturally competent care, advocating for policy changes to better serve marginalized groups, or continued research on what psychological factors precipitates these health concerns. This particular study suggests that focusing on Latino cultural values may be an important aspect of increasing physical activity and preventing childhood obesity in the Latina/o population. Counseling psychologists are well suited to replicate this study, as it incorporates many of their professional values.

Additionally, the mission of the National Latina/o Psychological Association (NLPA) charges its members to "enhance the overall well-being of Hispanic and Latina/o populations" (NLPA, 2014). Overall well-being of the Latina/o population in the United States is being compromised by this health disparity. Therefore, it is important for Latina/o psychologists to continue involving themselves in this research. Similarly to counseling psychologists, Latina/o psychologists can also provide vital services to the Latinas/os living in the United States through advocacy and research, which could improve the well-being of this group. For example, advocating for healthier school lunches, changes in food marketing, or access to parks or play space in urban or low income environments are all important social justice efforts involving this

health disparity. Testing culturally sensitive interventions through research would also serve this group.

Future Directions

Results of this study suggest many directions to take future research in order to increase understanding of the psychological factors that impact the prevalence of obesity in ethnic minority populations. First, researchers could replicate the current study using a broader sample of participants, for example, Latina/o adolescents nationwide. Conducting such a study would demonstrate whether the current results are only representative of Latina/o adolescents living in the Southeastern United States, or whether these results reflect a widespread pattern. Researchers in the current study recruited participants through Latino serving organizations, which limited the sample to participants who had access to such organizations and to those who would choose to participate in such organizations. In order to access a broader, more representative sample, future studies should recruit participants through the educational system or through primary care clinics, collaborating with teachers, administrators, and physicians to ask for parental permission. Again, one would need to be mindful of the potential complications of accessing participants through government organizations.

This study could be replicated with populations in other countries to determine if similarities exist between others culture's experiences of bicultural stress, their cultural values and wellness indicators. Raffaeli, Lazarevic, Koller, Nsamenang, and Sharma (2013) emphasize the importance of conducting research on adolescents who do not live in Western, industrialized nations. Therefore, researchers could replicate the current study in countries that do not have those characteristics. For example, do Paraguayan adolescents who adhere to more traditional Latino cultural values report more exercise? Do Latinos living in other, non-Western countries

experience bicultural stress? If so, does bicultural stress predict indicators of wellness for that population? Additionally, to enhance understanding of this relationship, researchers could conduct longitudinal studies to determine changes over time to the variables. Doing so would be particularly enlightening, given the potential changes in acculturative stress over time.

This study gathered information from adolescents who self-identified as Latina/o without taking within-group differences into account. Therefore, future research needs to be completed to test whether there are within-group differences in terms of experiencing acculturative stress, adherence to cultural values, and indicators of wellness. For example, researchers could replicate this study but take country of origin into account. Perhaps adolescents from countries not from the most prevalent countries of origin (i.e., Mexico, Puerto Rico, El Salvador, and Cuba; Delgado-Romero, et al., 2013; U.S. Census, 2013) may report more acculturative stress because there are fewer people with whom they interact from their same country of origin. The same study could also focus on generational differences (e.g., first generation adolescents compared to second generation adolescents). Researching these within-group differences could explain the nuances of the psychological impact of bicultural stress on the wellness indicators studied in the current investigation. Moreover, Acevedo-Garcia and Bates (2008) emphasized the need to compare immigrant health outcomes to people living in their countries of origin. Replicating the study comparing U.S. Latinos to their counterparts who live in their countries of origin could illuminate important health trends for this population.

Low bicultural stress was observed in our sample, which may suggest that involvement in culturally sensitive organizations buffers such stress. Therefore, another area for future research would be to replicate the current study and control for the protective effects of culturally sensitive organizations. Such a study could include mixed-methods, such as interviews of parents

and participants, to explore such protective factors. Or, the study could lead to a scale development regarding the protective effects of belonging to a culturally sensitive community organization. This research could enhance program development for community organizations.

Anecdotally, we observed that even when adolescents endorsed low bicultural stress, they did endorse stress related to immigration status of their friends and family. They also tended to endorse stress related to translating for their family members. Therefore, future research could also focus on studying these particular aspects of bicultural stress. Perhaps there are specific aspects of bicultural stress that impact these adolescents more than others. Or, rather than stress related to being bicultural, stress related to immigration and family responsibilities may relate to indicators of wellness. Based on these observations, future research could involve studying these nuances of bicultural stress or developing a scale that measures immigration related stress or stress related to family responsibilities specifically for Latino adolescents.

As previously mentioned, we used self-report to measure diet and exercise. We recommend that future research combine self-report measures with more specific or technologically sophisticated measures of diet and exercise. To illustrate, a food diary may be helpful in gathering specific information about participants' diets. Also, accelerometers, or other similar instruments, could be given to participants in order use technology to gather accurate information about physical activity. Kristal et al. (2005) even suggested using a watch with a camera to take pictures of food in order to measure dietary behaviors. Gathering multiple measures of diet and exercise would provide a wealth of information, and it would allow for comparison of differences between self-report and other types of measurements. Pairing these types of measures with a social desirability measure could control any variability due to impression management.

Future research should focus on the relationship between cultural values and exercise. Qualitative studies could be done to better understand the nuances of this relationship. Specifically, are there specific Latino cultural values that motivate exercise? Researchers could also conduct intervention studies to examine whether fostering cultural values specifically increases physical activity pre and post intervention. Families could be recruited to participate in order to determine whether targeting *familismo* in an intervention increases exercise across generations of family members. That is, if a participant values strong family relationships, could an intervention emphasize walking as a way to enhance family relationships? Or, if participants value strong family relationships, if health behaviors are framed as ways to keep family members healthy longer, would that impact exercise behaviors? Connecting exercise with the positive aspects of *machismo* (e.g., honor, responsibility; Delgado-Romero, et al., 2013) could also be tested with male participants.

Based on the results of this study, investigators could use this information to develop obesity prevention programs designed to help adolescents maintain Latino values while also promoting healthy living habits, such as healthy diets and physical activity. Previous programs have noted the importance of delivering culturally sensitive programming when trying to promote healthy lifestyles (Gatto, Ventura, Cook, Gyllenhammer, & Davis, 2012; Harvey and O'Brien, 2011). These culturally specific interventions have had mixed results in terms of reducing obesity prevalence and promoting healthy behaviors. Therefore, cultural values specifically may improve upon previously used strategies and interventions. Researchers could complete an experiment testing the effectiveness of these specific interventions at decreasing the prevalence of obesity and promoting the health of this population.

The data collection process revealed future research could be done to develop scales that enable adolescents to efficiently self-report dietary habits and exercise frequency. The scales used to measure these behaviors were not specifically geared toward adolescents. Although the instruments used provided helpful information for studying the health behaviors of our participants, they had their limitations. Creating a quick, user-friendly, adolescent specific measure of diet and exercise could be beneficial for researchers, educators, and health care professionals. Additionally, this efficient self-report measurement could contain foods commonly consumed in Latino culture (Block, Wakimoto, Jensen, Mandel, & Green, 2006).

In conclusion, this investigation highlighted the prevalence of overweight and obesity in the Latino/a adolescent population in Georgia and South Carolina. Acculturative stress was not found to predict any of the indicators of wellness. Neither mediation nor moderation effects were found between independent and dependent variables. However, results showed that Latino cultural values predicted self-reported exercise, suggesting an area of future research for this population, and emphasizing the importance of cultural competence for health care providers.

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APPENDIX A

PERMISSION FORMS—ENGLISH/SPANISH VERSIONS

Approved by University of Georgia
Institutional Review Board
Protocol # CR00000221
Approved on: 12/24/2013
For use through: 12/23/2014

Parental Permission Form

I agree to allow my child _____, to participate in a research project, "Acculturative Stress, Cultural Values, and Indicators of Wellness in Latina/o Adolescents." This study is being conducted by Bailey Nevels, M.Ed., a graduate student in the Department of Counseling and Human Development Services at the University of Georgia, under the supervision of Dr. Edward Delgado-Romero. My child's participation is voluntary, which means that I do not have to allow my child to take part in this study. My child can decline to participate or stop participating at any time without providing a reason for doing so, and without penalty or forfeiting benefits to which she/he is entitled. My child is between the ages of 12-17, identifies as Latino/a, and can read English or Spanish at a 6th grade reading level. If I do decide to withdraw my child from the study, the information that can be identified as my child's will be kept as part of the study and may continue to be analyzed, unless I make a written request to remove, return, or destroy the information.

J. The purpose of this project is to find out if stress related to immigration and cultural values are related to body mass, exercise, diet, and waist size in Latina/o adolescents.

2. My child may increase his or her knowledge about nutrition and physical activity by taking part in this study. The researcher hopes to better understand factors that influence weight in Latino/a adolescents.

3. By agreeing to let my child participate in the study, my child will be asked questions about his/her cultural values and food choices. S/he will also be asked to answer questions about what s/he finds stressful, how frequently s/he exercises. Then, my child's height, weight, and waist will be measured. I understand that these procedures will take approximately 1 hour to complete and will take place during CETPA Clubhouse hours. If I do not want my child to participate, then he/she will participate in regular Clubhouse activities that day.

4. Measuring weight and waist circumference may cause minor discomfort to my child. To minimize this discomfort, my child **will be weighed individually in a separate room with only 2 researchers present. She/he will also be reminded that she/he can discontinue participation at any point without being penalized and that all data will be kept confidential.** Answering questions regarding stressful experiences cultural values, stress, physical activity, or diet may also be uncomfortable. However, my child will be informed about the potential discomfort about filling out these questionnaires. My child will also be informed that he/she can stop participating at any point without risk or penalty. Also, my child will be allowed to skip any questions that he/she feels uncomfortable answering. My child may also contact Bailey Nevels

about his or her discomfort during the research procedures. She will then refer her/him to Rick Rodruiguez, LCSW, Clinical Director of CETPA for clinical services.

5. My child will be given an information card with his/her weight, height, waist circumference, and body mass index (BMI). This card will also have contact information for the physician and nurse at CETPA.

6. Regardless of whether or not my child chooses to participate in the research, my child can enter a drawing to receive a $25 Visa gift card by emailing ugawellness@gmail.com.

7. All individually-identifiable information collected about my child will be kept confidential unless otherwise required by law. My child's identity will be coded by a participant identification number and will be kept in a secure location. The key to this code will be destroyed upon completion of data collection.

8. The researcher will answer any questions I have about the study now, or throughout the course of the study. She can be reached by telephone at 706-453-6009 or by email at baileyn@uga.edu. I can contact Dr. Delgado-Romero, who is supervising the research, at 706-542-1812 or by email at edelgado@uga.edu.

9. I understand the research procedures previously described on this form. My questions about the study have been answered to my satisfaction. I agree to allow my child to participate in this study, and a copy of this form has been given to me for my records.

_____	_____	_____
Name of Researcher	Signature	Date
_____	_____	_____
Name of Parent	Signature	Date

Please sign both copies, keep one and return one to the researcher.

Additional questions or problems regarding your child's rights as a research participant should be addressed to The Chairperson, Institutional Review Board, University of Georgia, 629 Boyd Graduate Studies Research Center,

Athens, Georgia 30602; Telephone (706) 542-3199; E-Mail irb@uga.edu.

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Formulario de Permiso Parental

Estoy de acuerdo en permitir que mi hijo(a) _____, participe en el estudio de investigación, " Estrés de Aculturación, Valores Culturales, y Indicadores de Bienestar en Adolescentes Latinos." Este estudio está siendo realizado por Bailey Nevels, M.Ed., una estudiante de doctorado en el Departamento de Consejería y Desarrollo Humano de la Universidad de Georgia, bajo la supervisión del Dr. Edward Delgado-Romero. La participación de mi hijo(a) es voluntaria, lo cual significa que no tengo que permitir que mi hijo(a) participe en este estudio. Mi hijo(a) puede negarse a participar o dejar de participar en cualquier momento sin dar ninguna explicación, y sin sanciones o perdida de beneficios a las cuales tiene derecho. Mi hijo/a está entre las edades de 12 y 17, se identifica como un/a Latino/a y puede leer Inglés ó Español a una nivel de 6to grado. Si yo decido retirar a mi hijo/a del estudio, la información colectada que pueda ser identificada como la de mi hijo(a) se mantendrá como una parte del estudio y podría ser analizada, a menos que haga una petición por escrito pidiendo que se retire, devuelva, ó destruya la información.

1. El propósito de este proyecto es investigar si el estrés relacionado con inmigración y los valores culturales están relacionados con la masa corporal, el ejercicio, la dieta, y el tamaño de cintura en los adolescentes Latinos.

2. Mi hijo(a) puede enriquecer su conocimiento acerca de la nutrición y la actividad física al participar en este estudio. El investigador espera comprender mejor los factores que influyen el peso de los adolescentes Latinos.

3. Al permitir que mi hijo(a) participe en este estudio, mi hijo(a) se le harán preguntas acerca de sus valores culturales y su selección de alimentos. Se le harán preguntas acerca de lo que le es estresante y la frecuencia con la cual hace ejercicio. Después, se medirá la estatura, peso, y cintura de mi hijo(a). Entiendo que estos procedimientos tomaran aproximadamente una hora para completarse y se llevarán a cabo durante las horas del CETPA Clubhouse. Si no quiero que mi hijo(a) participe, entonces él / ella participara en las actividades regulares del Clubhouse ese día.

4. Medir el peso y la circunferencia de cintura puede causar molestias leves a mi hijo(a). Para minimizar cualquier molestia, mi hijo/a se va a pesar en un cuarto separado con solo 2 investigadores presentes. A el/ella también se le recordará que puede terminar su participación en cualquier momento sin ser penalizados y que su información se mantendrá confidencialmente. El

contestar preguntas acerca del estrés, valores culturales, actividad física y la alimentación podría ser incómodo. Sin embargo, a mi hijo/a se le informará de la posible molestia que contestar estas preguntas podría presentar. También se le dirá que pueden dejar de participar en cualquier momento sin riesgo o penalidad. También, mi hijo/a porá omitir cualquier pregunta que no quiera contestar. Mi hijo/a también puede contactar a Bailey Nevels si el/ella siente algún malestar durante los procedimientos de la investigación. La Sra. Nevels entonces referirá a su hijo/a al Sr. Rick Rodriguez, LCSW, Director de Servicios Clínicos de CETPA.

5. A mi hijo(a) se le dará una tarjeta de información con su peso, estatura, y la circunferencia de su cintura, y índice de masa corporal (BMI). Esta tarjeta también tendrá la información de contacto del médico y la enfermera de CETPA.

6. Independientemente de si o no mi hijo/a decide participar en la investigación, mi hijo/a puede entrar en un sorteo para recibir una tarjeta de regalo Visa de $25 por correo electrónico a ugawellness@gmail.com.

7. Toda la información coleccionada que pueda ser identificada como la de mi hijo(a) se mantendrá confidencial a menos que sea requerido por la ley. La identidad de mi hijo(a) será codificada con un número de identificación y se mantendrá en un lugar seguro. La clave para este código será destruido una vez concluya la colecta de datos de todos los participantes.

8. La investigadora contestará cualquier pregunta que tenga sobre el estudio ahora, o durante el curso del estudio. Se le puede contactar por teléfono al 706-453-6009 o por correo electrónico a baileyn@uga.edu. Puedo contactar al Dr. Delgado-Romero, quien está supervisando la investigación, al 706-542-1812 o por correo electrónico a edelgado@uga.edu.

9. Entiendo los procedimientos de la investigación previamente descritos en este formulario. Mis preguntas sobre el estudio han sido contestadas a mi satisfacción. Estoy de acuerdo en permitir que mi hijo(a) participe en este estudio, y se me ha dado una copia de este formulario para mis archivos.

_____	_____	_____
Nombre de Investigador	Firma	Fecha

_____	_____	_____
Nombre de Madre/Padre	Firma	Fecha

Por favor firme las dos copias, quédese con una y devuelva la otra para el investigador.

Preguntas adicionales o problemas relacionadas con los derechos de su hijo(a) como participante de una investigación deben dirigirse al president de la IRB en la Oficina de Temas Humanos en la Universidad de Georgia, 629 Boyd Graduate Studies Research Center, Athens, GA 30602-7411. Teléfono: (706) 542-3199; E-Mail: IRB@uga.edu.

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Parental Permission Form

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1. The purpose of this project is to find out if stress related to immigration and cultural values are related to body mass, exercise, diet, and waist size in Latina/o adolescents.

2. My child may increase his or her knowledge about nutrition and physical activity by taking part in this study. The researcher hopes to better understand factors that influence weight in Latino/a adolescents.

3. By agreeing to let my child participate in the study, my child will be asked questions about his/her cultural values and food choices. S/he will also be asked to answer questions about what s/he finds stressful, how frequently s/he exercises. Then, my child's height, weight, and waist will be measured. I understand that these procedures will take approximately 1 hour to complete. Participating in this project will not influence the availability of services, which I or my child may or may not be receiving.

4. Measuring weight and waist circumference may cause minor discomfort to my child. To minimize this discomfort, my child **will be weighed individually in a separate room with only 2 researchers present. She/he will also be reminded that she/he can discontinue participation at any point without being penalized and that all data will be kept confidential.** Answering questions regarding stressful experiences cultural values, stress, physical activity, or diet may also be uncomfortable. However, my child will be informed about the potential discomfort about filling out these questionnaires. My child will also be informed that he/she can stop participating at any point without risk or penalty. Also, my child will be allowed to skip any questions that he/she feels uncomfortable answering. My child may also contact Bailey Nevels about his or her discomfort during the research procedures. She will then refer her/him to a

local mental health center for clinical services. The contact information for a local mental health center is also provided on a supplementary form.

5. My child will be given an information card with his/her weight, height, waist circumference, and body mass index (BMI). This card will also have contact information for a local physician.

6. Regardless of whether or not my child chooses to participate in the research, my child can enter a drawing to receive a $25 Visa gift card by emailing ugawellness@gmail.com.

7. All individually-identifiable information collected about my child will be kept confidential unless otherwise required by law. My child's identity will be coded by a participant identification number and will be kept in a secure location. The key to this code will be destroyed upon completion of data collection.

8. The researcher will answer any questions I have about the study now, or throughout the course of the study. She can be reached by telephone at 706-453-6009 or by email at baileyn@uga.edu. I can contact Dr. Delgado-Romero, who is supervising the research, at 706-542-1812 or by email at edelgado@uga.edu.

9. I understand the research procedures previously described on this form. My questions about the study have been answered to my satisfaction. I agree to allow my child to participate in this study, and a copy of this form has been given to me for my records.

_____	_____	_____
Name of Researcher	Signature	Date

_____	_____	_____
Name of Parent	Signature	Date

Please sign both copies, keep one and return one to the researcher.

Additional questions or problems regarding your child's rights as a research participant should be addressed to The Chairperson, Institutional Review Board, University of Georgia, 629 Boyd Graduate Studies Research Center,

Athens, Georgia 30602; Telephone (706) 542-3199; E-Mail irb@uga.edu.

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Formulario de Permiso Parental

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1. El propósito de este proyecto es investigar si el estrés relacionado con inmigración y los valores culturales están relacionados con la masa corporal, el ejercicio, la dieta, y el tamaño de cintura en los adolescentes Latinos.

2. Mi hijo(a) puede enriquecer su conocimiento acerca de la nutrición y la actividad física al participar en este estudio. El investigador espera comprender mejor los factores que influyen el peso de los adolescentes Latinos.

3. Al permitir que mi hijo(a) participe en este estudio, mi hijo(a) se le harán preguntas acerca de sus valores culturales y su selección de alimentos. Se le harán preguntas acerca de lo que le es estresante y la frecuencia con la cual hace ejercicio. Después, se medirá la estatura, peso, y cintura de mi hijo(a). Entiendo que estos procedimientos tomaran aproximadamente una hora para completarse. Participación en este proyecto no influirá en la disponibilidad de servicios que yo o mi hijo(a) puede o no puede recibir.

4. Medir el peso y la circunferencia de cintura puede causar molestias leves a mi hijo(a). Para minimizar cualquier molestia, mi hijo/a se va a pesar en un cuarto separado con solo 2 investigadores presentes. A el/ella también se le recordará que puede terminar su participación en cualquier momento sin ser penalizados y que su información se mantendrá confidencialmente. El contestar preguntas acerca del estrés, valores culturales, actividad física y la alimentación podría

ser incómodo. Sin embargo, a mi hijo/a se le informará de la posible molestia que contestar estas preguntas podría presentar. También se le dirá que pueden dejar de participar en cualquier momento sin riesgo o penalidad. También, mi hijo/a porá omitir cualquier pregunta que no quiera contestar. Mi hijo/a también puede contactar a Bailey Nevels si el/ella siente algún malestar durante los procedimientos de la investigación. La Sra. Nevels entonces referirá a mi hijo/a un centro de salud mental en la comunidad. La información de contacto de un centro de salud mental en la comunidad se incluye en un formulario complementario, también.

5. A mi hijo(a) se le dará una tarjeta de información con su peso, estatura, y la circunferencia de su cintura, y índice de masa corporal (BMI). Esta tarjeta también tendrá la información de contacto del médico en la comunidad.

6. Independientemente de si o no mi hijo/a decide participar en la investigación, mi hijo/a puede entrar en un sorteo para recibir una tarjeta de regalo Visa de $25 por correo electrónico a ugawellness@gmail.com.

7. Toda la información coleccionada que pueda ser identificada como la de mi hijo(a) se mantendrá confidencial a menos que sea requerido por la ley. La identidad de mi hijo(a) será codificada con un número de identificación y se mantendrá en un lugar seguro. La clave para este código será destruido una vez concluya la colecta de datos de todos los participantes.

8. La investigadora contestará cualquier pregunta que tenga sobre el estudio ahora, o durante el curso del estudio. Se le puede contactar por teléfono al 706-453-6009 o por correo electrónico a baileyn@uga.edu. Puedo contactar al Dr. Delgado-Romero, quien está supervisando la investigación, al 706-542-1812 o por correo electrónico a edelgado@uga.edu.

9. Entiendo los procedimientos de la investigación previamente descritos en este formulario. Mis preguntas sobre el estudio han sido contestadas a mi satisfacción. Estoy de acuerdo en permitir que mi hijo(a) participe en este estudio, y se me ha dado una copia de este formulario para mis archivos.

_____	_____	_____
Nombre de Investigador	Firma	Fecha

_____	_____	_____
Nombre de Madre/Padre	Firma	Fecha

Por favor firme las dos copias, quédese con una y devuelva la otra para el investigador.

Preguntas adicionales o problemas relacionadas con los derechos de su hijo(a) como participante de una investigación deben dirigirse al president de la IRB en la Oficina de Temas Humanos en la Universidad de Georgia, 629 Boyd Graduate Studies Research Center, Athens, GA 30602-7411. Teléfono: (706) 542-3199; E-Mail: IRB@uga.edu.

APPENDIX B

MINOR ASSENT FORMS—ENGLISH/SPANISH VERSIONS

Approved by University of Georgia

Institutional Review Board
Protocol # CR00000221
Approved on: 12/24/2013
For use through: 12/23/2014

Minor Assent Form

Dear Participant,

I invite you to take part in my research study called, "Acculturative Stress, Cultural Values, and Indicators of Wellness in Latina/o Adolescents." This study will teach me about what factors relate to diet, exercise, body mass, and waist size in Latino/a adolescents.

If you choose to participate, you will allow me to ask you questions about your diet, exercise habits, things that you find stressful, and your cultural values. You will also agree have your weight, height and waist measured. You will also receive an information card with your measurements and the contact information of the CETPA doctor and nurse on it. You can stop participating at any point, and you do not have to answer questions that you don't want to answer.

I will not use your name when I write up the results of my study. You may learn more about physical activity and nutrition by taking part. I hope to learn more about how stress and culture relate to diet, exercise, body mass, and waist size.

Regardless of whether or not you choose to participate in the research, you can enter a drawing to receive a $25 Visa gift card by emailing ugawellness@gmail.com. If you have any questions or concerns about this study can always ask me or call my teacher, Dr. Delgado-Romero, at the following number: 706-542-1812. You can email him at edelgado@uga.edu

Sincerely,

Bailey Nevels, M.Ed.
University of Georgia
Counseling and Human Development Services
706-453-6009
baileyn@uga.edu

I understand the study described above. My questions have been answered by the researcher, and I agree to participate in this study. The researcher has given me a copy of this form to keep.

_____
Signature of the Participant/Date

Please sign both copies, keep one and return one to the researcher.
Additional questions or problems regarding your rights as a research participant should be addressed to The Chairperson, Institutional Review Board, University of Georgia, 629 Boyd Graduate Studies Research Center, Athens, Georgia 30602; Telephone (706) 542-3199; E-Mail Address IRB@uga.edu

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Formulario de Consentimiento Menor

Estimado Participante,

Te invito a participar en mi investigación llamada "Estrés de Aculturación, Valores Culturales, y Indicadores de Bienestar en Adolescentes Latinos." Este estudio me enseñará acerca de los factores que se relacionan con la dieta, el ejercicio, masa corporal y tamaño de cintura en los adolescentes Latinos.

Si decides participar, me permitirás hacerte preguntas acerca de tu dieta, hábitos de ejercicio, cosas que te sean estresantes, y tus valores culturales. También estarás de acuerdo en que tu peso, estatura, y cintura sean medidas. También recibirás una tarjeta con información sobre tus medidas y la información de contacto del médico y de la enfermera de CETPA. Puedes dejar de participar en cualquier momento, y no tienes que responder a las preguntas que no quieras contestar.

No usaré tu nombre cuando escriba los resultados de mi estudio. Puedes aprender más acerca de la actividad física y la nutrición mediante tu participación. Espero aprender más sobre cómo el estrés y la cultura se relacionan con la dieta, el ejercicio, la masa corporal y el tamaño de la cintura.

Puedes entrar en un sorteo para ganar una tarjeta de regalo Visa de $25 independientemente de si o no decides participar. Aun si decides dejar de participar, seguirás elegible para la tarjeta de regalo. Si tienes preguntas o alguna inquietud acerca de este estudio me puedes preguntar o llamar a mi maestro, el Dr. Delgado Romero, al siguiente número: 706-542-1812. Le puedes mandar correo electrónico a: edelgado@uga.edu.

Sinceramente,

Bailey Nevels, M.Ed.
University of Georgia (Universidad de Georgia)
Departamento de Consejería y Desarrollo Humano
706-453-6009
baileyn@uga.edu

Entiendo el estudio descrito anteriormente. Mis preguntas han sido contestadas por el investigador, y estoy de acuerdo en participar en este estudio. El investigador me ha dado una copia de este formulario para llevar.

_____
Firma del Participante/Fecha

Por favor firma las dos copias, quédate con una y devuelve la otra para el investigador. Preguntas adicionales o problemas relacionadas con sus derechos como participante de una investigación deben dirigirse al president de la IRB en la Oficina de Temas Humanos en la Universidad de Georgia, 629 Boyd Graduate Studies Research Center, Athens, GA 30602-7411. Teléfono: (706) 542-3199; E-Mail: IRB@uga.edu.

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Minor Assent Form

Dear Participant,

I invite you to take part in my research study called, "Acculturative Stress, Cultural Values, and Indicators of Wellness in Latina/o Adolescents." This study will teach me about what factors relate to diet, exercise, body mass, and waist size in Latino/a adolescents.

If you choose to participate, you will allow me to ask you questions about your diet, exercise habits, things that you find stressful, and your cultural values. You will also agree to have your weight, height and waist measured. You will also receive an information card with your measurements and the contact information of a local doctor on it. You can stop participating at any point, and you do not have to answer questions that you don't want to answer. Additionally, participating in this project will not influence the availability of services which you may or may not be receiving.

I will not use your name when I write up the results of my study. You may learn more about physical activity and nutrition by taking part. I hope to learn more about how stress and culture relate to diet, exercise, body mass, and waist size.

Regardless of whether or not you choose to participate in the research, you can enter a drawing to receive a $25 Visa gift card by emailing ugawellness@gmail.com. If you have any questions or concerns about this study can always ask me or call my teacher, Dr. Delgado-Romero, at the following number: 706-542-1812. You can email him at edelgado@uga.edu

Sincerely,

Bailey Nevels, M.Ed.
University of Georgia
Counseling and Human Development Services
706-453-6009
baileyn@uga.edu

I understand the study described above. My questions have been answered by the researcher, and I agree to participate in this study. The researcher has given me a copy of this form to keep.

_____
Signature of the Participant/Date

Please sign both copies, keep one and return one to the researcher.

Additional questions or problems regarding your rights as a research participant should be addressed to The Chairperson, Institutional Review Board, University of Georgia, 629 Boyd Graduate Studies Research Center, Athens, Georgia 30602; Telephone (706) 542-3199; E-Mail Address IRB@uga.edu

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Formulario de Consentimiento Menor

Estimado Participante,

Te invito a participar en mi investigación llamada "Estrés de Aculturación, Valores Culturales, y Indicadores de Bienestar en Adolescentes Latinos." Este estudio me enseñará acerca de los factores que se relacionan con la dieta, el ejercicio, masa corporal y tamaño de cintura en los adolescentes Latinos.

Si decides participar, me permitirás hacerte preguntas acerca de tu dieta, hábitos de ejercicio, cosas que te sean estresantes, y tus valores culturales. También estarás de acuerdo en que tu peso, estatura, y cintura sean medidas. También recibirás una tarjeta con información sobre tus medidas y la información de contacto de un médico en la comunidad. Puedes dejar de participar en cualquier momento, y no tienes que responder a las preguntas que no quieras contestar. Participación en este proyecto no influirá en la disponibilidad de servicios que tu puede o no puede recibir.

No usaré tu nombre cuando escriba los resultados de mi estudio. Puedes aprender más acerca de la actividad física y la nutrición mediante tu participación. Espero aprender más sobre cómo el estrés y la cultura se relacionan con la dieta, el ejercicio, la masa corporal y el tamaño de la cintura.

Puedes entrar en un sorteo para ganar una tarjeta de regalo Visa de $25 independientemente de si o no decides participar. Aun si decides dejar de participar, seguirás elegible para la tarjeta de regalo. Si tienes preguntas o alguna inquietud acerca de este estudio me puedes preguntar o llamar a mi maestro, el Dr. Delgado Romero, al siguiente número: 706-542-1812. Le puedes mandar correo electrónico a: edelgado@uga.edu.

Sinceramente,

Bailey Nevels, M.Ed.
University of Georgia (Universidad de Georgia)
Departamento de Consejería y Desarrollo Humano
706-453-6009
baileyn@uga.edu

Entiendo el estudio descrito anteriormente. Mis preguntas han sido contestadas por el investigador, y estoy de acuerdo en participar en este estudio. El investigador me ha dado una copia de este formulario para llevar.

_____

Firma del Participante/Fecha

Por favor firma las dos copias, quédate con una y devuelve la otra para el investigador. Preguntas adicionales o problemas relacionadas con sus derechos como participante de una investigación deben dirigirse al president de la IRB en la Oficina de Temas Humanos en la Universidad de Georgia, 629 Boyd Graduate Studies Research Center, Athens, GA 30602-7411. Teléfono: (706) 542-3199; E-Mail: IRB@uga.edu.

APPENDIX C

CONSENT FORMS—ENGLISH/SPANISH VERSIONS

Approved by University of Georgia
Institutional Review Board
Protocol # CR00000221
Approved on: 12/24/2013
For use through: 12/23/2014

Consent to Participate in Research

I, _____, agree to participate in a research project, "Acculturative Stress, Cultural Values, and Indicators of Wellness in Latina/o Adolescents." This study is being conducted by Bailey Nevels, M.Ed., a graduate student in the Department of Counseling and Human Development Services at the University of Georgia, under the supervision of Dr. Edward Delgado-Romero. My participation is voluntary, which means that I do not have to take part in this study. I can decline to participate or stop participating at any time without providing a reason for doing so, and without penalty or forfeiting benefits to which I am entitled. I am between the ages of 12-19, I identify as Latino/a, and can read English or Spanish at a 6th grade reading level. If I do decide to withdraw from the study, the information that can be identified as mine will be kept as part of the study and may continue to be analyzed, unless I make a written request to remove, return, or destroy the information.

1. The purpose of this project is to find out if stress related to immigration and cultural values are related to body mass, exercise, diet, and waist size in Latina/o adolescents.

2. My knowledge about nutrition and physical activity may increase by taking part in this study. The researcher hopes to better understand factors that influence weight in Latino/a adolescents.

3. By agreeing to participate in the study, I will be asked questions about my cultural values and food choices. I will also be asked to answer questions about what I find stressful, how frequently I exercise. Then, my height, weight, and waist will be measured. I understand that these procedures will take approximately 1 hour to complete and will take place during CETPA Clubhouse hours. If I do not want to participate, then I will participate in regular Clubhouse activities that day.

4. Measuring weight and waist circumference may cause me minor discomfort. To minimize this discomfort, I **will be weighed individually in a separate room with only 2 researchers present.** Answering questions regarding stressful experiences may also be uncomfortable. However, I can stop participating at any point without risk or penalty. I may also contact Bailey Nevels about my discomfort during the research procedures. She will then refer me to Rick Rodruiguez, LCSW, Clinical Director of CETPA for clinical services.

5. I will be given an information card with my weight, height, waist circumference, and body mass index (BMI). This card will also have contact information for the physician and nurse at CETPA.

6. Regardless of whether or not I choose to participate in the research, I can enter a drawing to receive a $25 Visa gift card by emailing ugawellness@gmail.com.

7. All individually-identifiable information collected about me will be kept confidential unless otherwise required by law. My identity will be coded by a participant identification number and will be kept in a secure location.

8. The researcher will answer any questions I have about the study now, or throughout the course of the study. She can be reached by telephone at 706-453-6009 or by email at baileyn@uga.edu. I can contact Dr. Delgado-Romero, who is supervising the research, at 706-542-1812 or by email at edelgado@uga.edu.

9. I understand the research procedures previously described on this form. My questions about the study have been answered to my satisfaction. I agree to participate in this study, and a copy of this form has been given to me for my records.

Name of Researcher	Signature	Date
Name of Participant	Signature	Date

Please sign both copies, keep one and return one to the researcher.

Additional questions or problems regarding your rights as a research participant should be addressed to The Chairperson, Institutional Review Board, University of Georgia, 629 Boyd Graduate Studies Research Center,

Athens, Georgia 30602; Telephone (706) 542-3199; E-Mail irb@uga.edu.

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Formulario de Permiso

Estoy de acuerdo _____, participar en el estudio de investigación, " Estrés de Aculturación, Valores Culturales, y Indicadores de Bienestar en Adolescentes Latinos." Este estudio está siendo realizado por Bailey Nevels, M.Ed., una estudiante de doctorado en el Departamento de Consejería y Desarrollo Humano de la Universidad de Georgia, bajo la supervisión del Dr. Edward Delgado-Romero. Mi participación es voluntaria, lo cual significa que no tengo que participar en este estudio. Puedo negarse a participar o dejar de participar en cualquier momento sin dar ninguna explicación, y sin sanciones o perdida de beneficios a las cuales tengo derecho. Yo estoy entre las edades de 18 y 19, me identifico como un/a Latino/a y puedo leer Inglés ó Español a una nivel de 6º grado. Si yo decido retirarme del estudio, la información colectada que pueda ser identificada como la mia se mantendrá como parte del estudio y podría ser analizada, a menos que haga una petición por escrito pidiendo que la información se retire, sea devuelta, ó sea destruida.

1. El propósito de este proyecto es investigar si el estrés relacionado con inmigración y los valores culturales están relacionados con la masa corporal, el ejercicio, la dieta, y el tamaño de cintura en los adolescentes Latinos.

2. Puedo enriquecer mi conocimiento acerca de la nutrición y la actividad física al participar en este estudio. El investigador espera comprender mejor los factores que influyen el peso de los adolescentes Latinos.

3. Al participar en este estudio se me harán preguntas acerca de mis valores culturales y su selección de alimentos. Se me harán preguntas acerca de lo que le es estresante y la frecuencia con la cual hago ejercicio. Después, se medirá mi estatura, peso, y cintura. Estos procedimientos tomaran aproximadamente una hora para completarse y se llevarán a cabo durante las horas del CETPA Clubhouse. Si no quiero participar, entonces participaré en las actividades regulares del Clubhouse ese día.

4. Medir el peso y la circunferencia de cintura puede causar molestias leves. Para minimizar cualquier molestia, yo me voy a pesar en un cuarto separado con solo 2 investigadores presentes. A mí también se me recordará que puedo terminar mi participación en cualquier momento sin ser penalizados y que mi información se mantendrá confidencialmente. El contestar preguntas acerca del estrés, valores culturales, actividad física y la alimentación podría ser incómodo. Sin embargo, a mí se me informará de la posible molestia que contestar estas preguntas podría

presentar. También se me dirá que puedo dejar de participar en cualquier momento sin riesgo o penalidad. También, yo poré omitir cualquier pregunta que no quiero contestar. Yo también puedo contactar a Bailey Nevels si me siento algún malestar durante los procedimientos de la investigación. La Sra. Nevels entonces referirá a mi al Sr. Rick Rodriguez, LCSW, Director de Servicios Clínicos de CETPA.

5. A mi se me dará una tarjeta de información con mi peso, estatura, la circunferencia de mi cintura, y índice de masa corporal (BMI). Esta tarjeta también tendrá la información de contacto del médico y la enfermera de CETPA.

6. Independientemente de si o no decido participar en la investigación, puedo entrar en un sorteo para recibir una tarjeta de regalo Visa de $25 por correo electrónico a ugawellness@gmail.com.

7. Toda la información coleccionada que pueda ser identificada como la de mi se mantendrá confidencial a menos que sea requerido por la ley. Mi identidad será codificada con un número de identificación y se mantendrá en un lugar seguro.

8. La investigadora contestará cualquier pregunta que tenga sobre el estudio ahora, o durante el curso del estudio. Se le puede contactar por teléfono al 706-453-6009 o por correo electrónico a baileyn@uga.edu. Puedo contactar al Dr. Delgado-Romero, quien está supervisando la investigación, al 706-542-1812 o por correo electrónico a edelgado@uga.edu.

9. Entiendo los procedimientos de la investigación previamente descritos en este formulario. Mis preguntas sobre el estudio han sido contestadas a mi satisfacción. Estoy de acuerdo en participar en este estudio, y se me ha dado una copia de este formulario para mis archivos.

_____	_____	_____
Nombre de Investigador	Firma	Fecha

_____	_____	_____
Nombre de Participante	Firma	Fecha

Por favor firme las dos copias, quédese con una y devuelva la otra para el investigador.

Preguntas adicionales o problemas relacionadas con sus derechos como participante de una investigación deben dirigirse al president de la IRB en la Oficina de Temas Humanos en la Universidad de Georgia, 629 Boyd Graduate Studies Research Center, Athens, GA 30602-7411. Teléfono: (706) 542-3199; E-Mail: IRB@uga.edu.

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I, _____, agree to participate in a research project, "Acculturative Stress, Cultural Values, and Indicators of Wellness in Latina/o Adolescents." This study is being conducted by Bailey Nevels, M.Ed., a graduate student in the Department of Counseling and Human Development Services at the University of Georgia, under the supervision of Dr. Edward Delgado-Romero. My participation is voluntary, which means that I do not have to take part in this study. I can decline to participate or stop participating at any time without providing a reason for doing so, and without penalty or forfeiting benefits to which I am entitled. I am between the ages of 18-19, I identify as Latino/a, and can read English or Spanish at a 6th grade reading level. If I do decide to withdraw from the study, the information that can be identified as mine will be kept as part of the study and may continue to be analyzed, unless I make a written request to remove, return, or destroy the information.

6. The purpose of this project is to find out if stress related to immigration and cultural values are related to body mass, exercise, diet, and waist size in Latina/o adolescents.

7. My knowledge about nutrition and physical activity may increase by taking part in this study. The researcher hopes to better understand factors that influence weight in Latino/a adolescents.

8. By agreeing to participate in the study, I will be asked questions about my cultural values and food choices. I will also be asked to answer questions about what I find stressful and how frequently I exercise. Then, my height, weight, and waist will be measured. I understand that these procedures will take approximately 1 hour to complete. Participating in this project will not influence the availability of services which I may or may not be receiving.

4. Measuring weight and waist circumference may cause me minor discomfort. To minimize this discomfort, measurements will be taken in a separate room with only 2 researchers present. Answering questions regarding stressful experiences may also be uncomfortable. However, I can stop participating at any point without risk or penalty, and I can skip any questions that I feel uncomfortable answering. I may also contact Bailey Nevels about my discomfort during the research procedures. She will then refer me to a local mental health center for clinical services. The contact information for a local mental health center is also provided on a supplementary form.

5. I will be given an information card with my weight, height, waist circumference, and body mass index (BMI). This card will also have contact information for a physician in the community.

6. Regardless of whether or not I choose to participate in this study, I can enter a drawing to receive a $25 Visa gift card by emailing ugawellness@gmail.com.

7. All individually-identifiable information collected about me will be kept confidential unless otherwise required by law. My identity will be coded by a participant identification number and will be kept in a secure location. The key to this code will be destroyed upon completion of data collection.

8. The researcher will answer any questions I have about the study now, or throughout the course of the study. She can be reached by telephone at 706-453-6009 or by email at baileyn@uga.edu. I can contact Dr. Delgado-Romero, who is supervising the research, at 706-542-1812 or by email at edelgado@uga.edu.

9. I understand the research procedures previously described on this form. My questions about the study have been answered to my satisfaction. I agree to participate in this study, and a copy of this form has been given to me for my records.

Name of Researcher	Signature	Date
Name of Participant	Signature	Date

Please sign both copies, keep one and return one to the researcher.

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1. El propósito de este proyecto es investigar si el estrés relacionado con inmigración y los valores culturales están relacionados con la masa corporal, el ejercicio, la dieta, y el tamaño de cintura en los adolescentes Latinos.

2. Puedo enriquecer mi conocimiento acerca de la nutrición y la actividad física al participar en este estudio. El investigador espera comprender mejor los factores que influyen el peso de los adolescentes Latinos.

3. Al participar en este estudio se me harán preguntas acerca de mi valores culturales y mi selección de alimentos. Se me harán preguntas acerca de lo que le es estresante y la frecuencia con la cual hago ejercicio. Después, se medirá mi estatura, peso, y cintura. Estos procedimientos tomaran aproximadamente una hora para completarse. Participación en este proyecto no influirá en la disponibilidad de servicios que yo puedo o no puedo recibir.

4. Medir el peso y la circunferencia de cintura puede causar molestias leves. Para minimizar cualquier molestia, yo me voy a pesar en un cuarto separado con solo 2 investigadores presentes. A mí también se me recordará que puedo terminar mi participación en cualquier momento sin ser penalizados y que mi información se mantendrá confidencialmente. El contestar preguntas acerca del estrés, valores culturales, actividad física y la alimentación podría ser incómodo. Sin embargo, a mí se me informará de la posible molestia que contestar estas preguntas podría presentar. También se me dirá que puedo dejar de participar en cualquier momento sin riesgo o

penalidad. También, yo poré omitir cualquier pregunta que no quiero contestar. Yo también puedo contactar a Bailey Nevels si me siento algún malestar durante los procedimientos de la investigación. La Sra. Nevels entonces referirá a mi a un centro de salud mental en la comunidad. La información de contacto de un centro de salud mental en la comunidad se incluye en un formulario complementario, también.

5. A mi se me dará una tarjeta de información con mi peso, estatura, la circunferencia de mi cintura, y índice de masa corporal (BMI). Esta tarjeta también tendrá la información de contacto del médico.

6. Puedo entrar en un sorteo para recibir una tarjeta de regalo Visa de $25 por correo electrónico a ugawellness@gmail.com

7. Toda la información coleccionada que pueda ser identificada como la de mi se mantendrá confidencial a menos que sea requerido por la ley. Mi identidad será codificada con un número de identificación y se mantendrá en un lugar seguro.

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9. Entiendo los procedimientos de la investigación previamente descritos en este formulario. Mis preguntas sobre el estudio han sido contestadas a mi satisfacción. Estoy de acuerdo en participar en este estudio, y se me ha dado una copia de este formulario para mis archivos.

_____	_____	_____
Nombre de Investigador	Firma	Fecha

_____	_____	_____
Nombre de Participante	Firma	Fecha

Por favor firme las dos copias, quédese con una y devuelva la otra para el investigador.

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APPENDIX D

DEMOGRAPHIC QUESTIONNAIRE—ENGLISH/SPANISH VERSIONS

Demographics Questionnaire-English Version

Please read the question and check the box next to your answer.

Participant ID: _____

1. What is your age? _____ (years)

2. Date of Birth _____
3. What is your gender? □Male □Female □Other _____

4. Do you self-identify/call yourself Latino/a?
□Yes □ No

5. Where were you born?
□United States
□Another place _____(write where you were born)

6. How many years have you lived in the United States? _____ (years)

7. Did you live in any other state within the US before moving to Georgia?
□ No.
□ Yes. Where did you live? _____ (write which state)

8. Select the range that best represents your home's annual income.
□ Less than $9,999
□ $10,000 - $24,999
□ $25,000 - $34,999
□ $35,000 - $49,999
□ $50,000 - $75,000
□ More than $75,000

9. What is the highest level of education your parents/guardians have achieved?
□ High School Diploma or less
□ Associate or Technical Degree
□ Some college
□ Bachelor's Degree
□Master's Degree
□Professional Degree (MD, JD, MBA, etc.)
□Doctorate (Ph.D., Ed.D., etc.)

Demographics Questionnaire-Spanish Version
Cuestionario Demográfico

Número de Identificación _____

1. Por favor indique su edad: _____ (años)

2. Fecha de Nacimeinto _____
3.¿Cuál es su género/sexo? □Masculino □ Fémina □ Otro _____

4. ¿Se identifica como un/a Latino/a?
□ Sí □ No

5. ¿Dónde nació?

☐ Estados Unidos

☐ Otro lugar _____ (especifique)

6. ¿Cuántos años lleva viviendo en los Estados Unidos? _____ años

7. ¿Vivió en algún otro estado de los Estados Unidos antes de mudarse a la Georgia?
□ No
□ Sí, ¿en qué estado vivió antes de venir a la Georgia? _____

8. Seleccione el encasillado que mejor representa el ingreso anual en su hogar:
□ Menos de $9,999
□ $10,000 - $24,999
□ $25,000 - $34,999
□ $35,000 - $49,999
□ $50,000 - $75,000
□ Más de $75,000

9. ¿Cuál es nivel más alto de educación que sus padres/tutores hayan alcanzado?
□ Escuela superior ó menos
□ Grado Asociado ó Técnico
□ Algunos cursos de universidad
□ Bachillerato
□ Maestría
□ Grado Profesional (MD, JD, MBA, etc.)
□ Doctorado (Ph.D., Ed.D., etc.)

APPENDIX E

BICULTURAL STRESSORS SCALE—ENGLISH/SPANISH VERIONS

Please indicate how stressful the following experiences have been for you. If you have never had the experience please circle "1": Never happened to me.

Please fill in only one answer for each item.

	Never happened to me	Not at all Stressful	A little bit stressful	Quite a bit stressful	Very Stressful
a.I have been treated badly because of my accent.	1	2	3	4	5
b. I have worried about family members or friends having problems with immigration	1	2	3	4	5
c. I do not feel comfortable with people whose culture is different than my own.	1	2	3	4	5
d. I feel uncomfortable when others make jokes about people of my ethnic background	1	2	3	4	5
e. I have had problems at school because of my poor English	1	2	3	4	5
f. I do not like it when others put down people of my ethnic background	1	2	3	4	5
g. I have felt that others do not accept me because of my ethnic group	1	2	3	4	5
h. I feel that I can't do what most American kids	1	2	3	4	5

do because of my parent's culture.					
i. I feel that belonging to a gang is part of representing my ethnic group.	1	2	3	4	5
j. I do not understand why people from a different ethnic background act a certain way.	1	2	3	4	5
k. I feel that it will be harder to succeed because of my ethnic background.	1	2	3	4	5
l. Because of family obligations, I can't always do what I want.	1	2	3	4	5
m. I have felt pressure to learn Spanish.	1	2	3	4	5
n. I have felt that I need to speak Spanish better.	1	2	3	4	5
o. My friends think I'm acting "White".	1	2	3	4	5
p. My parents feel I do not respect older people the way I should.	1	2	3	4	5
q. I have had to translate/interpret for my parents.	1	2	3	4	5
r. I have felt lonely and isolated because my family does not stick together.	1	2	3	4	5

s. I have had to help my parents by explaining how to do things in the U.S.	1	2	3	4	5
t. I have argued with my boyfriend/girlfriend over being too traditional.	1	2	3	4	5

Por favor indica que tan estresante las siguientes experiencias han sido para ti. Si nunca has pasado por esa experiencia, por favor escoge "1"; nunca me ha pasado. Escoge solo una respuesta para cada situación.

	Nunca me ha pasado	Nada estresante	Algo estresante	Muy estresante	Bastante estresante
a. he sido tratado mal debido a mi acento.	1	2	3	4	5
b. me he preocupado por miembros de mi familia o amigos que tienen problemas con migración.	1	2	3	4	5
c. no me siento a gusto con gentes de culturas diferentes a la mía.	1	2	3	4	5
	Nunca me ha pasado	Nada estresante	Algo estresante	Muy estresante	Bastante estresante
d. me siento incómodo cuando otros hacen bromas sobre la gente de mi grupo	1	2	3	4	5

étnico.					
e. he tenido problemas en la escuela debido a mi falta de conocimiento del inglés	1	2	3	4	5
g. he sentido que otros no me aceptan debido a mi grupo étnico	1	2	3	4	5
h. siento que no puedo hacer lo que muchos americanos hacen debido a la cultura de mis padres	1	2	3	4	5
i. siento que pertenecer a una pandilla es parte de representar a mi grupo étnico	1	2	3	4	5
j. no entiendo por que la gente de otro grupo étnico se comporta de cierta manera.	1	2	3	4	5

k. siento que me va a ser más díficil tener éxito debido a mi origen étnico.	1	2	3	4	5
l. debido a mis obligaciones familiares, no puedo siempre hacer lo que quiero.	1	2	3	4	5
m. me siento presionado a aprender español.	1	2	3	4	5

	Nunca me ha pasado	Nada estresante	Algo estresante	Muy estresante	Bastante estresante
n. he sentido que debo hablar mejor el español.	1	2	3	4	5
o. mis amigos piensan que estoy comportando me como “blanco”.	1	2	3	4	5
p. mis padres piensan que no respeto a las personas mayores como	1	2	3	4	5

debería.					
q. he tenido que traducir/interpretar para mis padres	1	2	3	4	5
r. me he sentido solo y aislado porque mi familia no se mantiene unida.	1	2	3	4	5
s. he tenido que explicarles a mis padres como hacer las cosas en los Estado Unidos.	1	2	3	4	5
t. he discutido con mi novio(a) con respecto a ser muy tradicional.	1	2	3	4	5

APPENDIX F

LATINO VALUES SCALE

INSTRUCTIONS: Use the scale below to indicate the extent to which you agree with the value expressed in each statement.

1 = strongly disagree 2 = disagree 3 = agree 4 = strongly agree

_____1. One does not need to follow one's cultural customs.
_____2. One does not need to be loyal to one's cultural origin.
_____3. One's bond with one's cultural group must be very strong.
_____4. One must preserve one's cultural heritage.
_____5. One should never lose one's language of origin.
_____6. One should work to preserve the language of one's ethnic group.
_____7. A man must provide for his family financially.
_____8. One should be able to question one's elders.
_____9. One should never bring shame upon one's family.
_____10. One does not need to practice one's cultural celebrations.
_____11. A man's strength comes from being a good father and husband.
_____12. One does not need to be emotionally affectionate to familiar individuals.
_____13. A woman should sacrifice everything for her family.
_____14. One's successes should be attributed to one's family.
_____15. A mother must keep the family unified.
_____16. One does not need to always present oneself as likeable to others.
_____17. A woman is considered the backbone of the family.
_____18. One's family is the main source of one's identity.
_____19. One must not offend others.
_____20. One does not need to always be cordial to others.
_____21. One must defer to one's elders for advice.
_____22. One does not need to have faith in premonitions.
_____23. One must maintain a sense of interdependence with one's group.
_____24. One does not need to trust a higher being.
_____25. One does not need to maintain one's cultural traditions.
_____26. One does not need to always support one's group.
_____27. One must help one's group to achieve its goals.
_____28. One does not need to always avoid conflict with others.
_____29. A woman must be a source of strength for her family.
_____30. One should be respectful to people who have a higher status.
_____31. One should never offend one's elders.
_____32. A woman does not need to successfully endure all adversity.
_____33. A woman should be the spiritual leader in the family.
_____34. One does not need to preserve the customs of one's cultural background.
_____35. One must be proud of one's cultural group.

Latino Values Scale—Español

INSTRUCCIONES: Use la escala debajo para indicar la medida con la que está de acuerdo con el valor expresado en cada oración.

1 = fuertemente en desacuerdo 2 = desacuerdo 3 = de acuerdo 4 = fuertemente de acuerdo

_____1. Uno no necesita seguir sus costumbres culturales.
_____2. Uno no necesita ser leal a su origen cultural.
_____3. El vínculo que uno tiene con su grupo cultural debe ser muy fuerte.
_____4. Uno debe conservar su herencia cultural.
_____5. Uno nunca debe perder su lenguaje de origen.
_____6. Uno se debe esforzar para conservar el lenguaje de su grupo étnico.
_____7. Un hombre debe proveer para su familia financieramente.
_____8. Uno debe ser capaz de cuestionar a sus mayores.
_____9. Uno nunca debe traer vergüenza a la familia.
_____10. Uno no necesita practicar sus celebraciones culturales.
_____11. La fuerza de un hombre proviene de ser un buen padre y esposo
_____12. Uno no necesita ser afectivo con individuos que uno conoce.
_____13. Una mujer debe sacrificarlo todo por su familia.
_____14. El éxito personal debe ser atribuido a la familia.
_____15. Una madre debe mantener a su familia unida.
_____16. Uno no siempre necesita ser simpático con otros.
_____17. Una mujer es considerada la columna fuerte de la familia.
_____18. La familia es la principal fuente de identidad propia.
_____19. Uno no debe ofender a otros.
_____20. Uno no tiene que ser siempre cordial con los demás.
_____21. Uno siempre debe esperar por el consejo de sus mayores.
_____22. Uno no necesita tener fe en premoniciones.
_____23. Uno debe mantener un sentido de interdependencia con su grupo.
_____24. Uno no necesita confiar en un ser supremo.
_____25. Uno no tiene que mantener sus tradiciones culturales.
_____26. Uno no necesita apoyar a su propio grupo siempre.
_____27. Uno debe ayudar a su grupo para lograr los objetivos del grupo.
_____ 28.Uno no siempre necesita evitar conflictos con los demás.
_____29. Una mujer debe ser una fuente de fuerza para su familia.
_____30. Hay que ser respetuoso con las personas que tienen una posición más elevada.
_____31. Uno nunca debe ofender a sus mayores
_____32. Una mujer no tiene por qué vencer todas las adversidades.
_____33. Una mujer debe ser el líder espiritual de la familia.
_____34. Uno no necesita conservar las costumbres de su herencia cultural.
_____35. Uno debe estar orgulloso de su grupo cultural.

APPENDIX G

KRISTAL FAT RELATED DIET HABITS QUESTIONNAIRE

Fat-Related Diet Habits Questionnaire
I. Interviewer Administered Format

Please consider your food choices over the past MONTH
In the past month…

			Usually	Often	Some-times	Rarely or Never	E
1.	Did you eat chicken?						
	1 YES →	When you ate chicken					
	2 NO	1a. How often was it fried?					
	3 NA/REF	(READ 1 – 4)	1	2	3	4	
		1b. How often did you remove the skin? (READ 1 – 4)	1	2	3	4	
2.	Did you eat red meat such as beef, pork or lamb?						
	1 YES →	When you ate red meat					
	2 NO	2a. How often did you trim all					
	3 NA/REF	the visible fat? (READ RESPONSES IF NECESSARY)	1	2	3	4	
3.	Did you eat ground meat?						
	1 YES →	When you ate ground meat					
	2 NO	3a. How often was it extra lean?	1	2	3	4	
	3 NA/REF						
4.	Did you eat fish?						
	1 YES →	When you ate fish					
	2 NO	4a. How often was it fried?	1	2	3	4	
	3 NA/REF						
5.	Did you have at least one vegetarian dinner or main meal – that is, without meat, fish, eggs or cheese?						
	1 YES →	5a. How often did you have a					
	2 NO	vegetarian dinner?	1	2	3	4	
	3 NA/REF						
6.	Did you eat spaghetti or noodles?						
	1 YES →	When you ate spaghetti or noodles					
	2 NO	6a. Were they plain, or with a red					
	3 NA/REF	or tomato sauce without meat?	1	2	3	4	
7.	Did you eat cooked vegetables?						
	1 YES →	When you ate cooked vegetables					
	2 NO	7a. How often did you add butter,					
	3 NA/REF	margarine or other fat?	1	2	3	4	
		7b. How often were they fried?	1	2	3	4	

In the past month…

			Usually	Often	Some-times	Rarely or Never
8.	Did you eat potatoes? 1 YES → When you ate potatoes 2 NO 8a. How often were they fried, like 3 NA/REF French fries or hash browns?		1	2	3	4
9.	Did you eat baked or boiled potatoes? 1 YES → When you ate baked or boiled 2 NO potatoes 3 NA/REF 9a. How often did you eat them without any butter, margarine or sour cream?		1	2	3	4
10.	Did you eat green salads? 1 YES → When you ate green salads 2 NO 10a. How often did you use no 3 NA/REF dressing?		1	2	3	4
		10b. How often did you use low-fat or non-fat dressing?	1	2	3	4
11.	Did you eat bread, rolls or muffins? 1 YES → When you ate bread, rolls or muffins 2 NO 11a. How often did you eat them 3 NA/REF without butter or margarine?		1	2	3	4
12.	Did you drink milk or use milk on cereal? 1 YES → When you had milk 2 NO 12a. How often was it 1% or nonfat 3 NA/REF milk?		1	2	3	4
13.	Did you eat cheese, including on sandwiches or in cooking? 1 YES → When you ate cheese 2 NO 13a. How often was it specially-made 3 NA/REF low-fat cheese??		1	2	3	4
14.	Did you eat dessert? 1 YES → When you ate dessert 2 NO 14a. How often did you eat only 3 NA/REF fruit?		1	2	3	4

In the past month…

		Usually	Often	Some-times	Rarely or Never
15.	Did you eat home-baked cookies, cakes or pies? 1 YES → When you ate home-baked cookies, cakes or pies 2 NO 3 NA/REF 15a. How often were they made with less butter, margarine or oil than the recipe called for?	1	2	3	4
16.	Did you eat frozen desserts like ice cream or sherbet? 1 YES → When you ate frozen desserts 2 NO 3 NA/REF 16a. How often did you choose frozen yogurt, sherbet or low-fat or non-fat ice cream?	1	2	3	4
17.	Did you eat snacks between meals? 1 YES → When you ate snacks between meals 2 NO 3 NA/REF 17a. How often did you eat raw vegetables or fresh fruit?	1	2	3	4
18.	Did you sauté or pan fry any foods? 1 YES → When you sautéed or pan fried foods 2 NO 3 NA/REF 18a. How often did you use Pam® or other non-stick spray instead of oil, margarine or butter?	1	2	3	4
19.	Did you use mayonnaise or mayonnaise-type spread? 1 YES → When you used mayonnaise or mayonnaise type spread 2 NO 3 NA/REF 19a. How often did you choose low-fat or nonfat types?	1	2	3	4
20.	Did you eat breakfast? 1 YES → When you ate breakfast 2 NO 3 NA/REF 20a. How often did you have fresh fruit?	1	2	3	4
21.	Did you eat lunch? 1 YES → When you ate lunch 2 NO 3 NA/REF 21a. How often did you have one or more vegetables, not including potatoes or salad?	1	2	3	4
22.	At dinner (or your main meal), how often did you have two or more vegetables, not including potatoes or salad?	1	2	3	4

Fat-Related Diet Habits Questionnaire Self-Administered Format—Español

Por favor considera las comidas que elegiste el mes pasado.
En el mes pasado…

1. ¿Comiste pollo? 1 SI → 2 NO 3 No aplica/ No respondió	Cuando comiste pollo 1a. ¿Cuántas veces fue frito? 1b. ¿Cuán frecuente le removiste la piel?	Usualmente / Varias veces / Algunas veces / Raramente / Nunca 1 2 3 4 1 2 3 4
2. ¿Comiste carnes rojas como la carne de res, cerdo ó cordero? 1 SI → 2 NO 3 No aplica/ No respondió	Cuando comiste carnes rojas 2a. ¿Cuántas veces le removiste toda la grasa visible?	1 2 3 4
3. ¿Comiste carne molida? 1 SI → 2 NO 3 No aplica/ No respondió	Cuando comiste carne molida 3a. ¿Cuántas veces fue magra?	1 2 3 4
4. ¿Comiste pescado? 1 SI → 2 NO	Cuando comiste pescado 4a. ¿Cuántas veces fue	1 2 3 4

3 No aplica/ No respondió	frito?	
5. ¿Comiste al menos una comida/cena vegetariana? Es decir, sin carne, pescado, huevos, ó queso. 1 SI → 2 NO 3 No aplica/ No respondió	5a. ¿Cuántas veces comiste una cena vegetariana?	1 2 3 4
6. ¿Comiste espaguetis ó fideos? 1 SI → 2 NO 3 No aplica/ No respondió	Cuando comiste espeguetis ó fideos 6a. ¿Fueron simples ó con salsa roja ó de tomate sin carne?	1 2 3 4
En el pasado mes… 7. ¿Comiste vegetales/verduras cocidos/as? 1 SI → 2 NO 3 No aplica/ No respondió	Cuando comiste espeguetis ó fideos 7a. ¿Cuántas veces le añadiste mantequilla, margarina, ú otra grasa? 7b. ¿Cuántas veces fueron fritos/as?	Usualmente Varias Algunas Raramente/ veces veces Nunca 1 2 3 4

		1	2	3	4
8. ¿Comiste papas? 1 SI → 2 NO 3 No aplica/ No respondió	Cuando comiste papas 8a. ¿Cuán frecuente fueron fritas como papas fritas ó hash browns?	1	2	3	4
9. ¿Comiste papas hervidas ó asadas? 1 SI → 2 NO 3 No aplica/ No respondió	9a. ¿Cuándo comiste papas asadas ó hervidas, las comiste sin mantequilla, margarina ó crema ágria?	1	2	3	4
10. ¿Comiste ensalada verde? 1 SI → 2 NO 3 No aplica/ No respondió	Cuando comiste ensalada verde 10a. ¿Cuán frecuente no usaste aderezo? 10b. ¿Cuán frecuente usaste aderezo bajo en grasa ó aderezo sin grasa?	1 1	2 2	3 3	4 4
11. ¿Comiste pan, panecillos, ó magdalenas? 1 SI → 2 NO 3 No aplica/ No respondió	Cuando comiste panes, panecillos ó magdalenas 11a. ¿Cuán frecuente lo comiste sin mantequilla ó	1	2	3	4

	margarina?	
12. ¿Bebiste leche ó le echaste leche al cereal? 1 SI → 2 NO 3 No aplica/ No respondió	Cundo bebiste ó usaste leche 12a. ¿Cuán frecuente fue leche al 1% ó descremada?	1 2 3 4
En el pasado mes… 13. ¿Comiste queso, incluyendo en emparedados ó al cocinar? 1 SI → 2 NO 3 No aplica/ No respondió	Cuando comiste queso 13a. ¿Cuán frecuente fue queso especialmente hecho bajo en grasa?	Usualmente Varias veces Algunas veces Raramente/ Nunca 1 2 3 4
14. ¿Comiste postre? 1 SI → 2 NO 3 No aplica/ No respondió	Cuando comiste postre 14a. ¿Cuántas veces solo comiste fruta?	1 2 3 4
15. ¿Comiste galletas, pasteles ó tortas horneadas en casa? 1 SI → 2 NO	Cuando comiste galletas, pasteles ó tortas horneadas en casa 15a. ¿Cuán frecuente	

3 No aplica/ No respondió	fueron horneadas con menos mantequilla, margarina ó aceite de lo que pedía la receta?	
16. ¿Comiste postre congelados, es decir helado/mantecado ó sherbert? 1 SI → 2 NO 3 No aplica/ No respondió	Cuando comiste postres congelados 16a. ¿Cuán frecuente elegiste yogurt congelado, helado/mantecado, sherbert bajo en grasa ó sin grasa?	1 2 3 4
17. ¿Comiste meriendas/bocadillos entre comidas? 1 SI → 2 NO 3 No aplica/ No respondió	Cuando comiste meriendas/bocadillos 17a. ¿Cuán frecuente comiste vegetales crudos ó frutas frescas?	1 2 3 4
18. ¿Comiste alimentos fritos salteados? 1 SI → 2 NO 3 No aplica/ No respondió	Cuando comiste alimentos fritos salteados 18a. ¿Cuántas veces usaste Pam® ó algún otro aceite en aerosol en vez de mantequilla, margarina ó aceite?	1 Usualmente 2 Varias veces 3 Algunas veces 4 Raramente/ Nunca

En el pasado mes…		
19. ¿Comiste mayonesa ó algún producto parecido? 1 SI → 2 NO 3 No aplica/ No respondió	Cuando usaste mayonesa ó algún producto similar 19a. ¿Cuántas veces usaste aquellos bajos en grasa ó sin grasa?	1 2 3 4
20. ¿Comiste desayuno? 1 SI → 2 NO 3 No aplica/ No respondió	Cuando comiste desayuno 20a. ¿Cuántas veces comiste fruta fresca?	1 2 3 4
21. ¿Comiste almuerzo? 1 SI → 2 NO 3 No aplica/ No respondió	Cuando comiste almuerzo 21a. ¿Cuántas veces comiste uno ó más vegetales aparte de papas ó ensalada verde?	1 2 3 4
22. En la cena (ó comida principal), ¿cuán frecuente comiste dos ó más vegetales, no incluyo papas ó ensalada verde?		1 2 3 4

APPENDIX H

GODIN LEISURE-TIME EXERCISE QUESTIONNAIRE

Godin Leisure-Time Exercise Questionnaire

1. During a typical **7-Day period** (a week), how many times on the average do you do the following kinds of exercise for **more than 15 minutes** during your free time (write on each line the appropriate number).

	Times Per Week
a) **STRENUOUS EXERCISE** **(HEART BEATS RAPIDLY)** (e.g., running, jogging, hockey, football, soccer, squash, basketball, cross country skiing, judo, roller skating, vigorous swimming, vigorous long distance bicycling)	_____
b) **MODERATE EXERCISE** **(NOT EXHAUSTING)** (e.g., fast walking, baseball, tennis, easy bicycling, volleyball, badminton, easy swimming, alpine skiing, popular and folk dancing)	_____
c) **MILD EXERCISE** **(MINIMAL EFFORT)** (e.g., yoga, archery, fishing from river bank, bowling, horseshoes, golf, snow-mobiling, easy walking)	_____

2. During a typical **7-Day period** (a week), in your leisure time, how often do you engage in any regular activity **long enough to work up a sweat** (heart beats rapidly)?

OFTEN	SOMETIMES	NEVER/RARELY
1. ☐	2. ☐	3. ☐

Godin Leisure-Time Exercise Questionnaire—Español

1. Durante un periodo típico de 7 días (una semana), ¿En promedio, cuántas veces haces los siguientes ejercicios por más de 15 minutos durante tiempo libre? (escribe en cada línea el número apropiado)

Veces Por Semana

a) Ejercicio extenuante _____
(El corazón late rápidamente)
(por ejemplo: correr, trotar, hockey, squash, fútbol, fútbol americano, baloncesto, natación vigorosa judo, patinaje, ciclismo a larga distancia)

b) Ejercicio Moderado (No Extenuante)
_____
(por ejemplo: caminata rápida, béisbol, tenis, ciclismo fácil, voleibol, natación fácil, esquí alpino, baile popular)

c) Ejercicio Suave (Esfuerzo mínimo)
_____
(por ejemplo: yoga, tiro con arco, pesca desde la orilla del río, herraduras, golf, caminata lenta)

2. Durante un periodo típico de 7 días (una semana), en tu tiempo libre, ¿cuán frecuente haces cualquier actividad regular el tiempo suficiente como para que te haga sudar? (el corazón late rápidamente)?

MUCHAS VECES ALGUNAS VECES NUNCA/RARAMENTE

APPENDIX I

INFORMATION FORMS

Information Form

Participant ID: _____

Date of Birth: _____

Name: _____

Weight _____

Height _____ feet _____inches

BMI _____

Waist Size (in inches)_____

Contact Information for CETPA Medical Staff: (770) 662-0249
6020 Dawson Boulevard, Suite i
Norcross, GA 30093

Information Form

Participant ID: _____

Date of Birth: _____

Name: _____

Weight _____

Height _____ feet _____inches

BMI _____

Waist Size (in inches)_____

Contact Information for CETPA Medical Staff: (770) 662-0249
6020 Dawson Boulevard, Suite i
Norcross, GA 30093

Classification of BMI*	BMI (kg/m^2)
Underweight	< 18.5
Normal	18.5–24.9
Overweight	25.0–29.9
Obesity	30.0–39.9
Extreme Obesity	40.0 +

BMI and Waist Circumference Information

Healthy Waist Circumference:
Men: 102 cm (40 inches or less)
Women: 88 cm (35 inches or less)

*Chart Adapted From National Heart, Lung, and Blood Institute (http://www.nhlbi.nih.gov/health/public/heart/obesity/lose_wt/bmi_dis.htm)

More Online Resources:
Center for Disease Control and Prevention (CDC)
http://www.cdc.gov/healthyweight/assessing/bmi/childrens_bmi/about_childrens_bmi.html

American College of Sports Medicine Fact Sheet:
http://www.acsm.org/docs/current-comments/childhoodobesitytemp.pdf

Classification of BMI*	BMI (kg/m^2)
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http://www.acsm.org/docs/current-comments/childhoodobesitytemp.pdf

Formulario de Información

Número de Identificación _____

Fecha de Nacimiento: _____

Nombre: _____

Peso_____

Estatura _____ pies _____pulgadas

Índice de masa corporal_____

El Tamaño de Cintura (pulgadas) _____

Contact Information for CETPA Medical Staff: (770) 662-0249
6020 Dawson Boulevard, Suite i
Norcross, GA 30093

Formulario de Información

Número de Identificación _____

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Nombre: _____

Peso_____

Estatura _____ pies _____pulgadas

Índice de masa corporal_____

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6020 Dawson Boulevard, Suite i
Norcross, GA 30093

Clasificación de BMI*	BMI (kg/m²)
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Normal	18.5–24.9
Sobrepeso	25.0–29.9
Obesidad	30.0–39.9
Obesidad Extrema	40.0 +

Información de Índice de Masa Corporal (BMI) y Circunferencia de Cintura

Circunferencia de Cintura Saludable
Hombres: 102 cm (≥ 40 pulgadas)
Mujeres: 88 cm (≥ 35 pulgadas)

*Tabla Adaptada de National Heart, Lung, and Blood Institute (http://www.nhlbi.nih.gov/health/public/heart/obesity/lose_wt/bmi_dis.htm)

Más Recoursos en la Red
Centro de Prevención y Control de Enfermedades (CDC)
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Information Form

Participant ID: _____

Date of Birth: _____

Name: _____

Weight _____

Height _____ feet _____inches

BMI _____

Waist Size (in inches)_____

If you have questions about this information, you can contact < Local Health Department>. You can also contact your family physician.

Information Form

Participant ID: _____

Date of Birth: _____

Name: _____

Weight _____

Height _____ feet _____inches

BMI _____

Waist Size (in inches)_____

If you have questions about this information, you can contact <Insert Local Health Department>. You can also contact your family physician.

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Formulario de Información

Número de Identificación _____

Fecha de Nacimiento: _____

Nombre: _____

Peso_____

Estatura _____ pies _____pulgadas

Índice de masa corporal_____

El Tamaño de Cintura (pulgadas) _____

Si usted tiene preguntas sobre esta información, póngase en contacto con el Departamento de Salud de <Local Health Department>. Usted también puede ponerse en contacto con el doctor de su familia.

Formulario de Información

Número de Identificación _____

Fecha de Nacimiento: _____

Nombre: _____

Peso_____

Estatura _____ pies _____pulgadas

Índice de masa corporal_____

El Tamaño de Cintura (pulgadas) _____

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