THE BELIEFS AND BEHAVIORS OF PHYSICAL ACTIVITY
OF LATINA WOMEN

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ABSTRACT

Studies show that leisure time physical activity of Latinas is lower than their white counterparts, consequently, predisposing them to complications in both obesity and diabetes. Concerned with low levels of aerobic exercise of Latinas during their leisure time, this study sought to identify and analyze the beliefs determinants influencing Latinas to engage in recreational physical activity, and thereby decreasing their risks of obesity and diabetes. The study focused on Latinas currently pregnant, pregnant within the past year, or those considering becoming pregnant in the near future. Women responded to a survey on physical activity, social support and acculturation. Findings indicated that most respondents had favorable views towards exercising, however, the level of house activities were significantly higher compared to recreational physical activity. Respondents indicated that their motivation to exercise is losing weight and staying healthy, however, obesity and diabetes were not recognized as chief contributors to a sedentary lifestyle. Although there was no significance difference between acculturation and physical activity, results showed that assimilation and integration into both American culture, and the country of birth of their parents, may be a potential indicator of increased exercise. Emotional social support, including encouragement and companionship, was also reported to have a potential relationship that may influence higher levels of physical activity of Latinas. With these findings, interventions should be implemented tailored to increasing level of physical activity of Latinas, as well as knowledge on its relationship to obesity and diabetes during their youthful years and in pregnancy. Interventions should furthermore focus on physical activity programs with encouragement, companionship, and advice on translating attitudes into behaviors in order to increase aerobic exercise during leisure time.
THE PROBLEM AND ITS BACKGROUND

With more than five million meeting the definition of obesity,¹ it is no wonder why today, “Americans are the fattest people on the face of the earth” [1]. If left unchecked, the associated press of *The Los Angeles Times* predicts that all Americans will one day be overweight [2]. The obesity epidemic has brought a devastating toll on the health of the United States. Today, 30% of Americans are defined as obese [5]. Much worse, the increasing rates of obesity are largely affecting minority populations that may be at risk for poor maternal and child health outcomes. Among all U.S. pregnant women, obesity has affected 36 percent of Mexican-American women [3].

Obesity is also spawning other health implications, including diabetes. Findings from the California Health Interview Survey show that obesity is an independent risk factor causing diabetes and cardiovascular disease, and the rates are twice as high in Latinos than non-Latinos [5,44]. The National Institute of Diabetes and Kidney Diseases and the American Heart Association estimated that 2.5 million Latinos, 20 years and older, were diagnosed with diabetes in 2005 [47]. Sadly, 31% of all Latinos diagnosed with diabetes are consequently affected by cardiovascular disease each year [6,47]. The relationship of obesity and diabetes is so interrelated and intercausal that Dr. Francine Kaufner, from Children’s Hospital in Los Angeles, has coined the term “diabesity,” which is now commonly used to refer to both epidemics highly prevalent in the Latino population.

There is a growing concern for the implications of obesity and diabetes in women of childbearing age. The March of Dimes Prenatal Data Center found that in 2003, 19.6 percent of U.S. women of reproductive age were obese, and in 2006, the rates skyrocketed to 60% among American women [4]. Obesity and gestational diabetes mellitus (GDM) are the most common

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¹ Obesity is defined as being 20 percent or more overweight by standard height and weight tables (Pender 294). According to the World Health Organization, obesity also signifies having a BMI (Body Mass Index) of 30kg/m²; 20-40 percent above ideal body weight, respectively (Brownell and Horgan 50).
complications of pregnancy for Latina women. Latina women are two to four times more likely to acquire GDM than in non-Latina women [7]. Maternal obesity can thus cause serious complications for the mother, as well as pregnancy-related problems for the child [4]. Mothers with Gestational Diabetes Mellitus (GDM) increase their risk of infant morbidity, obesity and glucose intolerance in their children [8]. Additionally, the lifetime risk of diagnosed Type 2 Diabetes was reported to be 52.5% in Latina women born in 2000 [8,43]. Additionally, a past workshop held in 2004 indicated that almost 30% of women of childbearing age (20-39 years) are obese, but the prevalence is higher among Mexican American women [26].

Sarwer et al. found that obesity and GDM both contribute to the risk of large-for-gestational age infants and cesarean section [4]. The adversities of women with obesity and GDM may increase the risk of bearing infants with a weight greater than 4000 grams at delivery [19]. Mothers who develop obesity and GDM during their pregnancies increase the risk for their children being born with congenital anomalies, including skeletal malformations and cardiac defects. Maternal Diabetes may also lead to childhood and adolescent obesity and Type 2 Diabetes [20].

The increasing trends of “diabesity” in Latinos is significantly influenced by physical inactivity, an independent risk factor for cardiovascular disease and weight gain. Nevertheless, obesity and diabetes are widening the gap of prevalence among Latina women of childbearing age [9]. The U.S. Census Bureau of Hispanic health stated that in 2003, not only did Latina women produce 22% of all births in the U.S, but they are even predicted to compose of the largest minority group in the U.S by the year 2030 [10,44]. The American College of Obstetricians and Gynecologists (ACOG) 2002 guidelines recommended that pregnant women should engage in 30 minutes or more of moderate exercise on most days of the week [11]. Adult Latina women are not meeting those guidelines of adequate physical activity in the U.S. and the levels of physical activity during pregnancy are even lower for these minority women compared to their white counterparts.
The Behavioral Risk Factor Surveillance System reported that pregnant Latina women were 40% less likely to meet the ACOG recommendations for moderate physical activity [12,46].

Physical activity is measured by domains including leisure time, sports, occupational, housework, active transport, moderate and vigorous intensity. Epidemiological evidence shows that physical inactivity is an independent risk factor for chronic disease and obesity [13]. In addition, Latina women report lower levels of physical activity during pregnancy [9]. Chasan-Taber et al. found that higher levels of prepregnancy and midpregnancy household/caregiving activities, and midpregnancy sports/exercise were positively associated with a reduced risk for GDM in Latina women. Unfortunately, household chores and child care activities most commonly reported by Latina women are ranked as the most frequent barrier to recreational physical activity [9].

It is estimated that 40% of Latinos have a high prevalence of physical inactivity, especially in the domain of leisure time in comparison to non-Latino whites [15]. It is probable that Latinos may be engaging in other forms of physical activity, such as occupational and household duties, which may not be accounted for by leisure-time physical activity measures commonly conducted by most researchers. Data shows that 65% of Mexican American men and 74% of Mexican American women participate in little or no leisure physical activity [16]. Data from the Health—Promoting Lifestyle Behaviors of Spanish-Speaking Hispanic Adults showed that physical activity was found to be the lowest behavioral dimension of health behaviors in Hispanics [16].

Concerned with the sedentary lifestyles of young Latina women and the health outcomes of their children, the intent of this study is to furnish young Latina women with awareness into increasing their level of physical activity to decrease their risks of obesity and diabetes. With the intent of uncovering the relationship between physical activity and the various barriers and facilitators preventing Latinas from exercising, potential implications for future studies can enlighten Latinas to exercise more in the domain of leisure physical activity.
REVIEW OF RELATED STUDIES AND LITERATURE

The U.S. Department of Health and Human Services affirms that physical activity is imperative to maintain good health, assist in psychological and emotional well-being, and even decrease the risk of obesity and diabetes. The CDC/National Center for Health Statistics by sex and race/ethnicity confirmed that from 1997-1999, 8.2% Latinos were diagnosed with diabetes compared to 4.1% of whites [21]. As a result, exercising may become an essential component to decreasing the high prevalence rate and risks of Type 2 Diabetes in the Latino population.

In their study, Larson-Meyer and Dawnine Enette found that aerobic exercise during pregnancy offers significant benefits, such as improving strength, energy and self-esteem there are crucial for mothering activities, as well as decreasing bone mineral density (BMD) to prevent bone loss from lactation [22]. However, most significant to the study was that a “mother’s participation in regular exercise after childbirth may encourage regular physical activity in her offspring” both in frequency and level of activity [22]. Their review of the literature found that “children of active mothers were two times as likely to be active,” which may account for the sharing of physical activities among the family members, and parental support of exercise [22].

Barriers

Surgeon General’s Report on Physical Activity and Health reported that physical inactivity is influenced by low socioeconomic status and race/ethnicity. Latina women are among all minority adolescent and youth to have lower rates of physical activity than their non-Latino white counterparts [23]. Balcazar et al. found that pregnant Mexican American women who become acculturated into US society and slowly neglect their traditional Mexican culture may risk exposure to some physical and psychosocial perils [24].

Physical and social environment has thus been found to inhibit exercising in Latinos. Poor neighborhoods are strongly linked to unsafe environments, causing the a large percentage of Latinos
to refrain from exercising outdoors. The March 2000 U.S. Census Bureau reported that 22.8% of Latinos lived in poverty [23]. Hence, their perceptions of safety and fear of crime highly correlate with physical inactivity. Amnesty’s study found that some socioeconomic groups with no cars may be more physically active, however are affected most by diseases such as diabetes, where physical activity is suppose to have a positive impact [23].

Embedded within the environment is poverty, literacy, and a safety context that may be attributed to the sedentary rates in Latina women. Studies show that strong relationships between poverty and physical activity are significantly affected by low levels of education, unemployment, lack of economic resources, and lack of social networks [23]. Crime and sedentary behaviors are related to powerlessness and hopelessness in the low income communities of the Latino population [23]. Eyler et al found that minority women reported feeling afraid of crime and used that as an excuse to not exercise [25].

Despite the prevalence of low income, education, and unemployment in most Latino communities, studies have also found correlations between Latinos and their awareness of indoor facilities for exercising [23]. Apart from the frequent socioeconomic disadvantages and discrimination, other significant barriers in Hispanic health include lack of health insurance and access to health coverage, and “missed opportunities” in which Latinos commonly make the mistake to heed subtle indicators in their health that eventually lead to widespread crises in the Latino community health [26]. Financial access, time availability, scheduling and keeping appointments may also indicate structural barriers preventing low-income pregnant women from receiving prenatal care [27].

**Acculturation**

With the recent increase of immigration into the U.S., Latinos are not only increasing the wave of first and second generation adolescents and young adults [28,46], however, Latino children
born in the U.S. are accounting for more than 50% of all births in California [29,44]. It is therefore important to look into the dimension of acculturation\(^2\) influencing healthy lifestyle behaviors in Latinos. Crespo et al. found a positive association between higher degree of acculturation and obesity, influenced via the social and cultural factors of physical inactivity and cardiorespiratory fitness (VO \(2\text{max}\)) [30]. Weitz’s study also discovered that fitness levels were higher in least acculturated Latinos [31]. Data on the determinants of acculturation level and physical activity shows that despite country of birth, Spanish-speaking Mexican Americans engage in lower levels of leisure time physical activity than English-speaking Mexican Americans [33]. One study found that Latinos who migrated to the U.S changed their definition of time and work. For instance, informants reported feeling that they now have to work more hours in order to survive in U.S, therefore, leaving less time with family and leisure exercising [23]. And most immigrants end up adopting the concept of “time is money” [23]. Cantero et al. found that women were more likely to exercise in higher acculturation groups, however, these subjects also had higher socioeconomics status and higher literacy levels [32].

Facilitators

For Latinas of childbearing age, a tangible social network may be a positive determinant for healthy behavior, including exercising. It is said that the extended family has an integral role in the traditional daily lives of Latinas [38]. McGlade et al. found that the intergenerational knowledge transferred from one generation of mothers to the next, including sisters and extended family members, offer advice on healthy behaviors [39]. Mexican women often take responsibility for the

\(^2\) Acculturation is a process of learning a new culture and adapting behavior to that new culture (Marin & Marin 1991). Also, “when people from differing backgrounds come into contact with one another and interchange cultural attitudes and behaviors” (Berry, J.W., Acculturation as varieties of adaptation. In: *Acculturation: Theory, Models and New Findings*, A. Padilla (Ed.). Boulder, CO: Westview, 1980, pp.9-25.
health needs of their intimate and extended family members [40], while Mexican fathers range in their positive role during the birth outcomes from highly supportive to minimal effects [41].

There are social and physical environmental barriers that preclude healthy behavioral proclivities in Latina women [38]. Evenson et al. investigated six Latino focus groups to identify environmental policy barriers, including transportation, limited facilities, costs, and safety of opportunities and places to exercise. Their study also attests to the significance of having sociocultural support from husband and family as a facilitator for physical activity, and indicates the absence of community involvement and gender roles in activity to increasing exercise among Latina immigrants [42].

Social support is categorized into three chief components: emotional (encouragement, criticism), informational (information and guidance), and instrumental (maternal, financial, physical resources) [38]. In 2000-2001, Thornton et al. conducted a study in southwest Detroit, where they endeavored to find how the role of social support influenced the physical activity-related beliefs of recently pregnant and postpartum Latinas and their children. Through a community-based intervention program called Promoting Healthy Lifestyles among Women/Promoviendo Estilos de Vida Saludables para Mujeres [38]. The conclusions drawn from their study were that pregnant and postpartum Latinas respond favorably towards the informational and emotional support to weight, and physical activity, provided by their husbands. Their husbands provided the kind of informational social support, in which most women were encouraged from gaining excess weight to avoid being “fat,” and maintain attractive bodies [38]. Other participants were encouraged by their husbands from endeavoring to watch their weight in order to have “big” or healthy babies [38].

In addition to primary guidance from their husbands, most pregnant participants received beneficial informational support from their mothers. Very little advice was reported begin given directly from the physician because most women claimed they learned beneficial informational
support about maintaining healthy weight from their mothers [38]. Informational support also came from female in-laws who advised pregnant women to eat healthier foods, including fruit, beans, lentils, vegetables, etc, while husbands associated holistic health with eating home-made meals instead of unhealthy meals “in the streets” [38]. Overall, husbands and family relatives provided informational support on increasing physical activity, however, they encouraged limited exercising, such as lifting small weights to prevent from harming the child and mother’s health [38]. Husbands were the predominant source of instrumental support for their wives to engage in exercise by walking in the park, and emotional support to accompany them in playing sports [38].

Additionally, the absence of instrumental support via childcare acts as another barrier for pregnant and postpartum women, because most women reported that not having their husbands watch their children provided an obstacle for them to engage in exercise, especially when husbands discouraged strenuous physical activity for them to endeavor [38]. From this study, informational, emotional and instrumental social support provided by family, especially mothers living in the U.S., and husbands are facilitators in aiding beneficial assistance to pregnant and postpartum women to refrain from gaining excess weight and engaging in physical activity.

**Hypotheses**

1. Latina women do not believe that exercise is important, and do not engage in recreational physical activity during their leisure time.

2. Non-Acculturation to the United States is associated with lower levels of physical activity.

3. Lower levels of emotional social support, such as encouragement and companionship, will be a strong indicator of decreased levels of physical activity.
RESEARCH QUESTION
What are the beliefs and determinants of physical activity in Latina women living in Los Angeles?

Purpose of the Study

The intent of this study is to uncover the relationship between the beliefs and determinants of physical activity in Latina women. The study will identify and analyze the barriers and facilitators enabling or debilitating Latinas from engaging in recreational physical activity during their leisure time. Concerned with the sedentary lifestyles of young Latina women and the health outcomes of their current or prospective pregnancy and children, the study also aims to furnish Latinas with awareness of how exercise contributes to behavior preventive towards “diabesity.”

This study focuses on Latina women (18 years and older), first and second generation. These women range from young adults of childbearing age to elderly women who have migrated to the United States from their teens. The women are an at-risk cohort, in critical stages of their lives to adopt healthy behaviors in exercising, if they haven’t done so. Therefore, it is crucial to tailor to Latina women to extend their longevity and health outcomes during their youth, current and prospective pregnancies, as well as the future of their children. Now is the time for them to adopt healthy behaviors through exercise to decrease their risk of obesity, Gestational Diabetes Mellitus, and Type II Diabetes Mellitus.

METHODOLOGY

Sample

The data described in this research is a cross-sectional, quantitative study on the beliefs and motivations of physical activity in Latinas of childbearing age. The participants of the study were adult Latina women, 18 year of age and older, residents of Los Angeles. These areas were selected because the predominant population is Latino background. The women in this small generation gap were either pregnant, pregnant within the last year, or were considering and or planning to become pregnant in the near future. Respondents completed a survey translated both in English and Spanish,
Design and Materials

The study implemented a questionnaire in English and Spanish. The questionnaire incorporated items from three pre-existing measures: The Physical Activity Questionnaire, Physical Activity and Social Support, and the AHIMSA Scale. Items were classified into selective themes including the level and intensity of physical activity, social support and acculturation.

The Physical Activity Questionnaire and the “How Physically Active Are You?” Survey were developed by the San Diego Prevention Research Center. The first items on the “How Physically Active Are You” Survey used scales derived from the Rapid Assessment of Physical Activity (RAPA1 and RAPA2), which evaluated the level and intensity of physical activity. Participants were asked to rate and indicate the level of light, moderate or vigorous exercise they engaged in on a daily basis. The first 7 items (RAPA 1) were classified under Aerobic measurement, which scored the responses as either sedentary, under-active, under-active regular, or active. Participants who responded “yes” only to the question “I rarely or never do any exercise,” were scored under sedentary. Those who responded positively to doing some light or moderate physical activities at almost every week were scored as under-activity. Those who agreed to engaging only in moderate exercise less than 30 minutes every day of the week, or vigorous exercise less than 20 minutes every day of the week were scored as under-active regular. Participants who were scored as active committed to 30 minutes or more of moderate exercise everyday of the week, or 20 minutes of vigorous exercise every day of the week. The items that followed were from RAPA2, which measured strength and flexibility of physical activity.

Items from the Physical Activity Questionnaire were the next set of pre-existing measures in

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* The study was approved by IRB on July 1, 2009. USC UPIRB # UP-09-00180
the survey. The Physical Activity Questionnaire, divided into three sections, was designed to find the physical activity in the everyday lives of the Latina respondents. Section A measured “Home Activities.” The questions pertained to activity patterns in and around the home. Respondents were asked to rate their involvement in each home activity on within the past 12 months, from "none" to "more than 4 hours a day" on a regular weekday and weekend. Section B items were relevant to “Activity at Work.” Section C contained items related to “Recreation.” These questions reflected how they spend their leisure time within the past 12 months. Respondents indicated the number of times they spent swimming, walking for pleasure, running, jogging, watering or mowing the lawn, impact aerobics, playing sports, and other conditioning exercises. Choices range from "none" to "6 times a week or more."

The next sample of questions pertained to the Physical Activity and Social Support, also developed by the San Diego Prevention Center. Items measured the level of involvement, encouragement and support received from mothers, father of child, friends, and or other relatives. Respondents indicated how strongly they feel about the amount of support they receive in relation to companionship, advice, and or encouragement to exercise more frequently.

Participants were then asked questions regarding their level of acculturation. The AHIMSA\textsuperscript{2} scale was used. The AHIMSA scale measured their level of assimilation, integration, ethnic interaction, cultural heritage, and ethnic factors from the perspective of the female respondent. The answer choices were the same for all 8 items: the \textit{U.S.} (indicating assimilation), the \textit{country my family is from} (indicating separation), \textit{both} (indicating integration), and \textit{neither} (indicating marginalization).

Items that follow asked questions pertaining to family history of diabetes and GDM. These

\begin{footnotesize}
\textsuperscript{2} \textit{Acculturation, Habits, and Interests Multicultural Scale for Adolescents,} developed by Unger, B. Jennifer et al. (2002) The AHIMSA Acculturation Scale: \textit{A New Measure of Acculturation for Adolescents in a Multicultural Society}. Journal of Early Adolescence, 22, 3, 225-251
\end{footnotesize}
questions were used to help in assessing if the female respondents are at greater risk of acquiring diabetes, insulin intolerance, and or obesity during their youth, or during and after a pregnancy. Respondents were also asked to indicate their age, level of highest education, average annual income, date and place of birth. The sociodemographic questions were used to assess any correlations in the amount of economic resources, and other environmental and cultural factors that may act as barriers in the health of the young women and their future pregnancy.

The Body Mass Index (BMI) asked respondents for their weight and height, was collected by self-report. It was assumed that the women respondents recruited via email indicated their proper weight and height in the online survey. After proper adjustments and measurements, the researcher found the corrected BMI level by applying the National Institute of Health’s calculation of BMI. The standard definition from the NIH corrected the levels of BMI context in all the women, including those found with average weight, overweight, and obese. A distinct BMI scale was used to correct for the weight and height measurements of the women who were currently pregnant. This study implemented BMI into the questionnaire to help find correlations between level, amount, motivation, and proclivity of physical activity with the risks for overweight and obesity during their youth, current pregnancy, and or future pregnancies.

The study implemented chi-square analyses for RAPA1, Physical Activity and Social Support, and the AHIMSA scales. SPSS was used to draw proper and potential relationships between recreational physical activity during leisure time, and the level of acculturation and social support.

Rationale behind the sample size and criteria

The focus of the study is to investigate the determinants of sedentary behaviors in most Latina women, and their beliefs and motivation influencing them to refuse engaging in recreational physical activity. The study will draw conclusions based on their attitudes and perceptions to suggest improvements for intervention programs tailored to increasing exercise in Latinas.
CONCLUSION

RESULTS

The study collected a total of 114 respondents in the distribution of the survey. The means and standard deviation behind the sociodemographic backgrounds of the study are displayed in Figure 1 and Table 1 in the Appendix (throughout this paper, for all figures and table data mentioned, refer to appendices included at the end). Out of 64 of the women who responded to their birthplace, 27.2% were foreign-born migrants from Mexico. The next largest number were those born in the U.S., representing 23.7% of the respondents. Only 3.5% were from Central American and 1.8% were from South America. Tables and Figures, included in the Appendix, further illustrate the results of this study. Findings reveal that out of 97 women, the mean age was 25 ± 7.22, indicating that almost all of the respondents were of childbearing age. The collected data from the survey also showed that the mean height was 5 ft 3in. ± 2in., and the mean weight was 148 lbs ± 31 lbs. This Table also illustrates that the mean BMI for non-pregnant women was 25.28 kg/m² ± 7.59 kg/m², while the BMI for pregnant women was 27.81 kg/m² ± 4.26 kg/m². The mean BMI for both non-pregnant and pregnant women indicates that the respondents fall under the categorical range of being labeled “overweight,” which is defined as having a BMI between 25-29.9 kg/m². Figures 4 depicts a comparison of the BMI from the non-pregnant and pregnant respondents, side by side, to draw an illustrative comparison of the high and unhealthy BMI levels in both groups. Remarkably, the BMI was higher in those who were non-pregnant than those who were pregnant.

The pregnancy status of the respondents was as follow: with a high percentage of 78.1%, most respondents were not pregnant, while 12.3% were pregnant within the past year, and 9.6% were currently pregnant. The sociodemographics are furthered detailed in Table 3, revealing that the majority of the respondents only completed a high school education (47.4%), and were of low-income (47.4% earned less than $15,000). The results also showed that most respondents preferred
speaking both English and Spanish (58.8%), while Spanish was the second most preferred language spoken (14.9%). Figure 2 illustrates that although 10.5% of the respondents indicated that they had a family history of GDM, or maternal diabetes, a high 37.5% had a family history of diabetes.

Respondents were categorized based on the questions they answered pertaining to the level, intensity and amount of physical activity. Table 5 details the frequencies and percentages of the physical activity levels in the Latina respondents based on their aerobic activity. Figure 5 also demonstrates the four categories in which respondents were placed under based on their level and amount of aerobic exercise, which are as follow: Active, Under-Active Regular, Under-Active and Sedentary. Chi-square analysis showed that there was significant differences between all four groups. An estimated 38% of the women self-reported that they were in the Active category, agreeing to committing to either 20 minutes of vigorous exercise everyday of the week, or 30 minutes of moderate exercise everyday of the week. Due to the fact that this is self-report, scoring may have been skewed and inaccurate. It is highly probable that women may have perceived other types and domains of activities as inclusive to their daily physical activities, including house ad occupational activities apart from leisure exercise. Only 112 respondents who completed the physical activity sample items were included in the calculations and analyses of the data. For those who responded with “I do 30 minutes or more per day of moderate physical activities, 5 or more days per week” or “I do 20 minutes or more per day of vigorous physical activities, 3 or more days per week” I scored under Active. For those who responded with “I do moderate physical activities every week, but less than 30 minutes per day, 5 days per week,” or “I do vigorous physical activities every week, but less than 20 minutes per day, 3 days per week” I scored as Under-Active Regular. Only 18.4% of the women fell in this category. The next largest group of women were classified as Under-Active, which accounted for 28.1% of all 112 respondents who completed the sample items under the physical activity scale. These women responded to “I do some light or moderate physical
activities, but not every week” or “I do some light physical activity every week” I scored as Under-Active, which accounted for 28.1% of the women. For those who responded to “I rarely or never do any physical activity” I scored as being Sedentary. Women under the Sedentary group composed of the smallest group of respondents for the physical activity sample items.

As mentioned in the methodology, respondents also answered items pertaining to the level of acculturation they most reflected. Results from the AHIMSA 8 item scale showed that the majority of the respondents answered that they have developed ideas and a behavioral lifestyle reflecting both the culture of the U.S. and the country of their parents’ origin. The respondents were thereby classified under the level of acculturation in which they answered most of their responses to. Figure 6 illustrates the percentages of acculturation levels that described the Latina respondents.

Out of 100 respondents, analyses of the frequencies and percentages for the acculturation items showed that 60.5% of the respondents were in the Integration category. Table 6 depicts the categorical responses. An estimated 19% answered the “U.S.” to most of the items, and were thereby classified under Assimilation. For those who answered the “country where my parents are from” to most of the questions were scored as Separation. Hence, only 7% were placed under Separation, while 0.9% descriptively met the category of Marginalization.

Ninety-nine out of 114 of the respondents answered the item questions under Physical Activity and Social Support. Analyses of the frequencies and percentages pertaining to these items showed that 43% of the participants had low social support levels, and 35% had strong social support. Strong social support indicated that respondents strongly agreed to questions such as: “Chances are I would exercise more if I had a friend or family member to exercise with.” They also indicated that they had friends or relatives who encouraged them to exercise, as well as had at least one friend or relative who would commit to exercising with them, and or preferred to exercise and
walk outside only when they had someone joining them. In addition, 8.8% indicated “neither” or “none” for social support. Table 7 and Figure 7 reflect these categorical responses.

**Hypothesis 1**

The first part of Hypothesis 1 was rejected. As stated in the first Hypothesis, the researcher believed that the majority of Latina women do not regard exercise as important and essential for a healthy lifestyle preventive towards obesity and diabetes, and are therefore engaging in low levels of physical activity during their leisure time. When asked, “How important is exercising for you?” 69% of the respondents indicated that they believed exercise is either “very important” or “important” to them. Only 18.4% disagreed with the statement. In contrast, the second part of Hypothesis 1 was supported by the responses of the survey. Consequentially, leisure time physical activity was significantly low. There were only 4 categories in recreational activity that had the highest rates under leisure time physical activity, which included the following: walking for pleasure, dancing, watering or mowing the lawn or garden, and home and car maintenance activities. Table 5 illustrates the categories and their percentages.

Figure 8 further depicts the low percentages of recreational physical activities in the Latina respondents. An estimated 17% of the respondents indicated that they walk for pleasure 2 to 6 times a week, while 9.7% said they walk for pleasure only once a month or once a week. Under the category of dancing, which included disco, ballroom and salsa, 13.1% said they commit to this activity once a week or once a month, while 8.1% agreed to engaging in dancing 2 to 6 times a week. Eleven percent responded that they commit to watering and mowing the lawn or garden, and 2.7% said they do this 2 to 5 times a week. An estimated 9% said they engage in activity related to carpentry, home and or car maintenance one a week or once a month, and 7.1% said they do this 2 to 6 times a week.
The low levels of recreational physical activities in the Latina respondents may be explained in the higher rates of activities in and around the home that most respondents reported they engaged in. These results are detailed in Table 6. As a result, reports on House Activities were higher than the items under Recreational Physical Activity. According to respondents, 57% agreed to spending 1 to 3 hours a week shopping for food and groceries, while 21.9% engaged in this activity less than one hour a week. An estimated 46% reported spending 1 to 3 hours a week doing laundry and ironing, and 22.8% reported spending less than an hour per week. Another 45.6% reported spending 1 to 3 hours a week, in cleaning the house, while 17.5% committed to this 3 to 6 hours a week. Additionally, 36% engaged in preparing food, cooking and washing in the home 1 to 3 hours a week, and 28.1% committed to 3 to 6 hours a week. Thirty-nine percent shopped or browsed for toys and clothes 1 to 3 hours a week. Lastly, 18.4% of the women reported spending more than 15 hours a week caring for pre-school children or babies, not as a paid employment.

Respondents were then asked the survey item: “What is your motivation to exercise?” Figure 10 depicts the responses. Most responded to both being healthy and loosing weight (65% and 54%, respectively). Several women responded separately the category of “to prevent obesity” or to the category “to prevent diabetes” but rarely did they check off both (39.5% and 31.6%, respectively). Fortunately, 54% respondents agreed enjoying lifting weights while exercising. Only 6.1% answered unfavorably towards having no motivation and or enjoying exercising.

**Hypotheses 2**

Analysis of the findings did not support Hypothesis 2, which predicted to show a favorable relationship between low levels of acculturation and low levels of recreational physical activity. Table 8 illustrates the relationship. For the items in both scales of Physical Activity (RAPA) and Acculturation (AHIMSA), only 99 or 86.6% of the women responded to all questions under both measures, were included in the calculation and analyses of the data. The Integration group had the
highest levels of aerobic physical activity, however, chi-square analysis showed this was not statistically significant ($p = 0.256$). Although there was no significant differences, there was a potential relationship between Active and Integrated, as well as Active and Assimilated. As a result, the high frequency of women who reported being Active, were also highly acculturated into American culture, hence, acculturation may represent a potential indicator of higher levels of exercise. Twenty women were thereby both Active and Integrated into the U.S. and the country of their parent’s origin. The next largest group of Active women fell under the Assimilation group, accounting for a frequency of 10. The highest number of respondents were placed as both Integrated and Under-Active. This constituted a frequency of 24. Results thus showed that the most active people were in the Integration and Assimilation group. Additionally, there were 13 women in the Integration group who reported being Under-Active Regular, while 11 respondents composed the Sedentary group. As for the Separation group, there were only 2 respondents who were Active, and 3 who were Sedentary. There were, however, no respondents categorized under the Marginalized group who also reported being Sedentary or low physical activity levels.

**Hypothesis 3**

Hypothesis 3 on Physical Activity and Social Support was rejected. There was no statistical significant differences illustrating that higher levels of recreational physical activity are influenced by higher levels of emotional social support. Results, however, showed that emotional social support, including encouragement and companionship to exercise, may be a potential predictor and determinant of increased levels of leisure exercise. Chi-square analysis showed that strong emotional social support had the highest number of Active women (frequency of 18), yet not statistically significant ($p=0.155$). Another 18 of the respondents reported that they were both Under-Active and had low social support levels. Additionally, there was also a high frequency of respondents who had low social support and were Under-Active Regular, which accounted for 11 of
the women. While 10 women were classified as Active with low social support, there were 9 women who were Sedentary and had low social support as well. As for those with high emotional social support levels, only 6 were Sedentary, 8 were Under-Active, and another 8 were Under-Active Regular. Results thus showed that a majority of the respondents were either Active with high social support, and Under-Active with low social support. The levels of strong and low social support, in conjunction with physical activity are described in Table 9.

DISCUSSION

The purpose of the study sought to identify and assess determinants and beliefs that may predispose Latina women to exercise more or less during their leisure time. The characteristics of the sample population indicated that most non-pregnant and pregnant women have a BMI over 25 kg/m² (25 ± 8 kg/m² and 28 ± 4 kg/m², respectively), and consequently classifying them as “overweight” under the definition of obesity. It is therefore of the utmost urgency for this his cohort of Latina women to engage in more leisure time physical activity, aside from house activity. Not only were the respondents overweight, however, an estimated 38% had a family history of diabetes, and 11% had a family history of GDM. The complications of obesity and diabetes are thus increasing their risks for acquiring one or both diseases in their near future, as well as predisposing poor behavioral proclivities in their youth for childhood obesity and Diabetes Mellitus.

For the focus of the study, sociodemographics were not accounted for into the analysis of physical activity in Latina women. However, it should be acknowledge that the majority of the women were of low-income, low educational backgrounds. Hence, the physical and structural environment may play an essential role in providing enough economic resources to these women, including gym facilities, adequate prenatal care and value from physicians and health care professional, as well as safe parks and neighborhoods. The environment thereby encompasses a tangible arena where women can engage in exercise.
Moreover, with a mean age of 25 years, the results indicate that the majority of the women were of childbearing age. Thus, these women are at a crucial point in their lives to begin developing healthier behaviors in becoming more physically active. Based on the findings of this study, we hope to initiate an intervention program based on obesity and diabetes prevention tailored to this sample population. Due to the fact that several Latinas do not engage in sufficient recreational physical activity, future interventions should focus on increasing exercise during leisure time. However, we should also acknowledge that most Latina women commit to higher rates of house activities, including caring for pre-school children and babies, shopping for food/groceries, mowing and watering the lawn/garden, and most importantly, cooking, washing and doing laundry. As a result, interventions should recognize that the majority of both foreign-born and American born Latina women may have a predisposition to engage in a plethora of physical activities in the home, which is certainly not accounted for in several studies that deal with physical activity in general.

In addition, because an estimated 70% of the women of this study had favorable views towards the importance of exercise, this allows a hopeful future for further interventions to launch tailored programs for Latina women to translate their positive attitudes and perceptions about exercising into behaviors preventive towards obesity and diabetes. There is also, however, an imperative urgency to increase the awareness and prevention of obesity and diabetes in Latina women. Although the study showed that Latina women regard physical activity as essential for a healthy life, the problem remains in that the majority do not engage in the recommended guidelines of 20 or more minutes of leisure time physical activity a day. The results indicated that most women self-reported that they were *Active*, accounting for a high 37.7%, yet the highest amount of leisure physical activity was “walking for pleasure” (16.6%), in comparison to the 57% who reported shopping for food/groceries, and another 45.6% reported both cleaning the house and doing laundry/ironing at least 1 to 3 times a week. As a result, we believe that most of the women
classified as *Active*, which indicated that they spent either 30 minutes of moderate exercise or 20 minutes of vigorous exercise everyday. Hence, these reports may therefore offer an explanation to why there was a significantly higher percentage of women engaging in house activities than recreational physical activity, and thereby classifying themselves as *Active*. Additionally, only 28.1% reported being *Under-Active* and 18.4% reported being *Under-Active Regular*, continually indicating that the rates of physical activity are low in the Latina respondents.

Furthermore, results showed that acculturation may be a potential determinant indicating increased physical activity during leisure time in Latina women. Although chi-square analysis did not indicate a statistical significant difference between higher levels of physical activity and acculturation (*p* =0.256), the largest sample of *Active* women were *Integrated*, signifying being highly acculturated. As a result, the most physically *Active* women were highly integrated into the cultural beliefs and behaviors of both the United States and the country where their parents were from. The second highest number of *Active* women were also highly assimilated into the culture, beliefs and behaviors traditional to the United States. These results clearly indicate that the American way of thinking and living plays a strong determining factor for women to engage in recreational exercise. A possible explanation can be that as most Latinas are integrating and or assimilating into the American culture, they are beginning to recognize that they need to engage in more aerobic physical activity. Hence, the media in the United States, such as billboard and commercial advertisements, may be translating positive and favorable views towards exercising, including the use of gym facilities prevalent in and around Los Angeles. Because most the respondents in this study were foreign-born from Mexico, it seems as though many have already integrated the belief that exercising is crucial for maintaining a healthy life and loosing weight. This supports the results for why 64% of the women reported being motivated to exercise because they wanted to be healthy, while 65% reported they wanted to loose weight. Sadly, 39.5% of the women
were motivated to exercise to prevent obesity, and a lower 31.6% reported exercising would help them reduce risk of diabetes. Nevertheless, this accentuates the need to increase the promotion of exercising in the U.S.

However, contrast to the 20 Active women placed in the Integrated group, there were 24 Under-Active women who were also Integrated. While the largest sample of Active women were Integrated, the largest sample of Under-Active women were also Integrated. As a result, although the American media may offer an arena of promotions to utilizing the gym, the high numbers of Under-Active and Integrated women illustrates that acculturation may pose a problematic towards exercising. It is possible that as more Latina women are becoming acculturated into American life, they are developing poor nutritional habits and behaviors, such as over-eating, large portions, and over-consumption of fast-food chain restaurants, which are not only highly prevalent around the United States, yet they have become an integral part of American eating and way of life. Nevertheless, it is probable that highly acculturated Latina women are relying on public and car transportation to travel to and from work, home, etc., instead of engaging in walking, as most do in their native country. It is also important to account for the healthy eating habits integral to a large majority of Latina women in their native Latin country. These healthy eating habits include a high fiber nutrition of fruits and vegetables, which is replaced by high, caloric fat diets and rich-sugary foods, as they accustom to the fast-paced life of stress, over-eating, and over-consumption of easy accessible foods most common in the United States.

Findings also indicated that 18 women, who we categorized as meeting the requirements for being aerobically Active, also had strong emotional social support. This accounted for the largest number of Active women, in comparison to those with low emotional social support or none at all. Although not statistically significant, chi-square analysis showed that the highest number of Active women (engaging in more than 20 minutes of moderate exercise a day or 30 minutes of vigorous
exercise a day), reported having a high amount of emotional social support \((p = 0.155)\). These results signify that high levels of emotional social support may have a potential relationship with high levels of recreational exercise. The study, however, only focused on emotional social support, which primarily accounts for companionship and encouragement, therefore, the items in the survey reflect only within these parameters. Hence, the women who reported engaging in high levels of physical aerobic activity had at least one friend or relative who would commit to exercising with them. These women also reported having friends and family members who constantly encouraged them to go out and exercise.

Contrast to the 18 Active women who had high emotional support, there were 10 Active women also reported low social support. This high frequency may account for other forms of social support not including emotional social support, such as informational (advice) and instrumental (monetary incentives). Additionally, results showed that women who reported low-levels of social support were either Under-Active Regular or Under-Active, which indicates that they only commit to some moderate exercise, but not every week. Hence, because 18 women with low social support were Under-Active, this reinforces the idea that low levels of social support may lead to decreased levels of exercise. These findings indicate that psychosocial factors may play an influential role for exercising more, however, they do not explain why most Latina women feel that they need to be accompanied or encouraged by somebody in order to engage in exercise. A possible explanation can be the most Latina women are significantly influenced by the strong social bonds of their Latin culture, and therefore fear initiating something new, such as exercising, without the support, approval, or encouragement from friends and family members. Women who exercised more, most likely had a high social support network of friends and or relatives, who may be constantly encouraging and or accompanying them to find some leisure time to exercise.
Another possible explanation can be that Latina women are simply not being encouraged enough or given advice to exercise more by their friends and family members. Consequently, they may not be engaging in aerobic exercise because they do not find time to do so. Considering the fact that most reported engaging in higher house activities than recreational physical activity, such as watering/mowing the lawn or caring for children, it is probable that time is hindering them from engaging in leisure time physical activity. Nevertheless, most may feel the need to be encouraged and motivated by a friend or relative in order to trade in their house activities for some time of aerobic and recreational physical activity. This, however, entails a thoroughly new analysis and study on attitudes and perceptions towards increased emotional social support and exercise. Hence, there are several assumptions that can harbor this point, however, more qualitative studies need to be done on the attitudes and perceptions of having how emotional social support can increase your motivation to exercise.

Obesity and diabetes have brought a devastating toll on the health implications in the United States. The pandemic has wreaked the health of the nation, and its minority populations, with Latinos being the largest and growing. The rates of “diabesity” (obesity and diabetes) are consequently twice as high in Latinos than non-Latino whites. In the United States, 30% of the women of childbearing age (20-39 years old) are already defined as obese, and the prevalence is higher for Mexican-American women. Additionally, with more Latinos migrating to the U.S. from their country of origin, including Mexico, Central and South America, they are entering into a new culture with new beliefs, ideas, and behaviors. Consequentially, if America does not change its attitudes about increasing physical activity, the rates of Latinos developing poor sedentary behaviors will skyrocket as well. Additionally, Latina women need to become aware of how obesity and diabetes are causing significant damage to their own health, as well as the health of their future
children. Most importantly, Latinas must primarily recognize that physical activity is an independent risk factor for causing obesity and diabetes.

**IMPLICATIONS OF THE STUDY**

The results draw a picture of certain concrete and intangible determinants influencing Latina women to exercise more during their leisure time. In light of the findings, Latina women need to become aware that by increasing their recreational physical activity, such as walking more or engaging in more aerobic exercises that increase their heart rate above the normal range; this will then decrease their risks of acquiring obesity and diabetes—significantly affecting their ethnicity.

This study therefore finds it imperative to translate healthy behaviors to their children by first increasing a mother’s participation in exercise. One study found that a “mother’s participation in regular exercise after childbirth may encourage regular physical activity in her offspring” both in frequency and level of activity [22]. Their review of the literature found that “children of active mothers were two times as likely to be active,” which may account for the sharing of physical activities among the family members, and parental support of exercise [22].

Additionally, because there seems to be a potential relationship between higher social support and higher aerobic exercise, it is important for Latina women to look into programs where they can engage in group activity exercises in gyms, parks, schools, and other recreational facilities around their neighborhoods. If we get more Latina to continually commit to exercise, and thereby, meet the recommended guidelines of 20 or minutes of exercise a day, this can possibly bring light into a tsunami effect. In other words, interventions to obesity and diabetes prevention programs can launch physical activity initiatives and goals to influence more and more women to exercise together, or the very least, encourage themselves to participate in more leisure-time physical activity. With the potential determinants found in this study, indicating possible influences for higher levels of recreational exercise, this study warrants significant findings in the near future.
APPENDIX

LIST OF TABLES AND FIGURES

Table 1
Means, Frequencies, and Percentages of Age and Body Mass Index (BMI) of Sample Population

Figure 1
Percentages of Birthplace in Latina Respondents

Table 2
Frequencies and Percentages of Characteristics in Latina Respondents

Figure 2
Percentages of Family History of Diabetes and Gestational Diabetes Mellitus (GDM)

Table 3
Frequencies and Percentages of Sociodemographics

Figure 3
Percentages of Status in Latina Respondents

Table 4
Percentages of Body Mass Index (BMI) in Pregnant and Non-Pregnant Latina Respondents

Table 5
Frequencies and Percentages of Physical Activity Levels in Latina Respondents

Figure 5
Percentages of Physical Activity Levels in Latina Respondents

Table 6
Frequencies and Percentages of Acculturation Levels in Latina Respondents

Figure 6
Percentages of Acculturation Levels in Latina Respondents
Table 7
Frequencies and Percentages of Social Support Levels in Latina Respondents

Figure 7
Percentages of Social Support Levels in Latina Respondents

Table 8
Frequencies of Physical Activity and Acculturation Levels in Latina Respondents

Figure 8
Percentages of Recreational Physical Activity in Latina Respondents

Table 9
Frequencies of Physical Activity and Social Support Levels in Latina Respondents

Figure 9
Percentages of Physical Activity Beliefs in Latina Respondents

Figure 10
Frequencies of Acculturation and Physical Activity Levels in Latina Respondents

Figure 11
Frequencies of Physical Activity and Social Support Levels in Latina Respondents

Figure 1

Percentages of Birthplace in Latina Respondents
N = 64

- U.S. (23.7%)
- Mexico (27.2%)
- Central America (3.5%)
- South America (1.8%)
Table 1
Means, Frequencies, and Percentages of Age and Body Mass Index (BMI) of Sample Population
N = 114

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>97</td>
<td>85.1%</td>
<td>25 kg/m²</td>
<td>7.23 kg/m²</td>
</tr>
<tr>
<td>BMI Not-Pregnant</td>
<td>54</td>
<td>47.4%</td>
<td>25.28 kg/m²</td>
<td>7.59 kg/m²</td>
</tr>
<tr>
<td>BMI Pregnant</td>
<td>7</td>
<td>6.1%</td>
<td>27.81 kg/m²</td>
<td>4.26 kg/m²</td>
</tr>
</tbody>
</table>

Table 2
Frequencies and Percentages of Characteristics in Latina Respondents
N = 114

<table>
<thead>
<tr>
<th>Status</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Pregnant</td>
<td>89</td>
<td>78.1%</td>
</tr>
<tr>
<td>Have been pregnant (past year)</td>
<td>14</td>
<td>12.3%</td>
</tr>
<tr>
<td>Currently Pregnant</td>
<td>11</td>
<td>9.6%</td>
</tr>
</tbody>
</table>

Figure 3

Percentages of Pregnancy Status in Latina Respondents
N = 114

- Not pregnant (78.1%)
- Pregnant Past Year (12.3%)
- Pregnant (9.6%)

Figure 4

Percentages of BMI (Body Mass Index) in Non-Pregnant and Pregnant Latina Respondents
N = 60
Table 3

Frequencies and Percentages of Sociodemographics

\[ N = 114 \]

<table>
<thead>
<tr>
<th>Education</th>
<th>Frequency</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Less than High School</td>
<td>15</td>
<td>13.2%</td>
</tr>
<tr>
<td>Completion of High School</td>
<td>54</td>
<td>47.4%</td>
</tr>
<tr>
<td>College Graduate</td>
<td>31</td>
<td>27.2%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Income</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $15,000</td>
<td>54</td>
<td>47.4%</td>
</tr>
<tr>
<td>$15,000-$30,000</td>
<td>30</td>
<td>26.3%</td>
</tr>
<tr>
<td>Greater than $30,000</td>
<td>16</td>
<td>14%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Preferred Language</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spanish Only</td>
<td>17</td>
<td>14.9%</td>
</tr>
<tr>
<td>English Only</td>
<td>16</td>
<td>14%</td>
</tr>
<tr>
<td>Both</td>
<td>67</td>
<td>58.8%</td>
</tr>
</tbody>
</table>

Figure 2

Percentages of Family History of Diabetes and Gestational Diabetes Mellitus (GDM)

\[ N = 114 \]
Table 5

Frequencies and Percentages of Physical Activity Levels in Latina Respondents
N = 112

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active</td>
<td>43</td>
<td>37.7%</td>
</tr>
<tr>
<td>Under-Active Regular</td>
<td>21</td>
<td>18.4%</td>
</tr>
<tr>
<td>Under-Active</td>
<td>32</td>
<td>28.1%</td>
</tr>
<tr>
<td>Sedentary</td>
<td>16</td>
<td>14%</td>
</tr>
</tbody>
</table>

Figure 5

Percentages of Physical Activity Levels in Latina Participants
Figure 6
Percentages of Acculturation Levels in Latina Respondents
N = 100

- Marginalization (0.9%)
- Separation (7%)
- Integration (60.5%)
- Assimilation (19.3%)

N = 112

- Active (37.7%)
- Under-Active Regular (18.4%)
- Under-Active (28%)
- Sedentary (14%)
Table 6
Frequencies and Percentages of Acculturation Levels in Latina Respondents
N = 100

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assimilation</td>
<td>22</td>
<td>19.3%</td>
</tr>
<tr>
<td>Integration</td>
<td>69</td>
<td>60.5%</td>
</tr>
<tr>
<td>Separation</td>
<td>8</td>
<td>7%</td>
</tr>
<tr>
<td>Marginalization</td>
<td>1</td>
<td>0.9%</td>
</tr>
</tbody>
</table>

Table 7
Frequencies and Percentages of Social Support Levels in Latina Respondents
N = 99

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong, High</td>
<td>40</td>
<td>35.1%</td>
</tr>
<tr>
<td>Neither</td>
<td>10</td>
<td>8.8%</td>
</tr>
<tr>
<td>Weak, Low</td>
<td>49</td>
<td>43%</td>
</tr>
</tbody>
</table>

Figure 7
Percentages of Social Support Levels in Latina Respondents
N = 99
Table 5

Percentages of the Top Four Recreational Physical Activities in Latina Respondents
N = 114

<table>
<thead>
<tr>
<th>Activity</th>
<th>Once a week or month</th>
<th>2 to 6 times a week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walking (for pleasure)</td>
<td>9.7%</td>
<td>16.6%</td>
</tr>
<tr>
<td>Dancing (ballroom, salsa, disco)</td>
<td>13.1%</td>
<td>18.1%</td>
</tr>
<tr>
<td>Watering, mowing the lawn or garden</td>
<td>11.4%</td>
<td>2.7%</td>
</tr>
<tr>
<td>Carpentry, home or care maintenance</td>
<td>8.8%</td>
<td>7.1%</td>
</tr>
</tbody>
</table>

Figure 8

Percentages of Recreational Physical Activity Levels in Latina Respondents
N = 114
Table 6
Percentages of the Top House Activities in Latina Respondents
N = 114

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cleaning the house</td>
<td>1 to 3 hrs/week = 45.6%</td>
</tr>
<tr>
<td></td>
<td>3 to 6 hrs/week = 17.5%</td>
</tr>
<tr>
<td>Shopping for food, groceries</td>
<td>Less than 1 hr/week = 22.8%</td>
</tr>
<tr>
<td></td>
<td>1 to 3 hrs/week = 57%</td>
</tr>
<tr>
<td>Cooking, washing</td>
<td>1 to 3 hrs/week = 36%</td>
</tr>
<tr>
<td></td>
<td>3 to 6 hrs/week = 28.1%</td>
</tr>
<tr>
<td>Activity</td>
<td>Time Distribution</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td>Laundry, ironing</td>
<td>Less than 1 hr/week = 22.8%</td>
</tr>
<tr>
<td></td>
<td>1 to 3 hrs/week = 45.6%</td>
</tr>
<tr>
<td>Shopping or browsed for toys, clothes</td>
<td>1 to 3 hrs/week = 38.6%</td>
</tr>
<tr>
<td>Caring for pre-school children or babies</td>
<td>15 hrs/wk = 18.4%</td>
</tr>
</tbody>
</table>

Figure 10

Percentages of Physical Activity Beliefs in Latina Respondents

N = 114
Table 8

Frequencies of Physical Activity and Acculturation Levels in Latina Respondents
N = 99

<table>
<thead>
<tr>
<th></th>
<th>Assimilation</th>
<th>Integration</th>
<th>Separation</th>
<th>Marginalization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active</td>
<td>10</td>
<td>20</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Under-Active</td>
<td>6</td>
<td>13</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Regular</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under-Active</td>
<td>5</td>
<td>24</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Sedentary</td>
<td>1</td>
<td>11</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

Chi-square analysis, $p = 0.256$

Figure 10

Frequencies of Acculturation and Physical Activity Levels in Latina Respondents
N = 99
Chi-square, $p = 0.256$

### Table 9
Frequencies and Percentages of Physical Activity and Social Support Levels in Latina Respondents

<table>
<thead>
<tr>
<th></th>
<th>Strong, High Social Support</th>
<th>Neither</th>
<th>Low, Weak Social Support</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Active</strong></td>
<td>18</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td><strong>Under-Active Regular</strong></td>
<td>8</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td><strong>Under-Active</strong></td>
<td>8</td>
<td>5</td>
<td>18</td>
</tr>
<tr>
<td><strong>Sedentary</strong></td>
<td>6</td>
<td>0</td>
<td>9</td>
</tr>
</tbody>
</table>

Chi-square, $p = 0.155$

**Figure 11**
Percentages of Physical Activity and Social Support Levels
in Latina Respondents

N = 98

Chi-square, $p = 0.155$

REFERENCES


21. CDC National center for health statistics by sex and race ethnicity.


