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Addressing the Health Disparity Gap: Perceptions of Barriers to and Benefits of Leisure Time Physical Activity in African-American and Latino Older Adults

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Abstract

The purpose of this study was to determine if there were significant differences in perceptions toward barriers and benefits of leisure time physical activity (LTPA) between African-American and Latino older adults. One-hundred and twenty five older adults participated in the study. A twenty-six item questionnaire, a modification of the San Diego LTPA instrument (Mouton, Calmbach, Dhanda, Espino, & Hazuda, 2000) was used to collect the data. Results indicated that African-American older adults perceived no strong barriers to LTPA, whereas Latino older adults did perceive several barriers. Additionally, older Latino adults perceived more benefits from LTPA than their African-American counterparts. The research study concluded that there were differences in perceptions toward barriers and benefits of LTPA between African-American and Latino older adults in the study area.

Key Words: Aging, African-American older adults, Latino older adults, leisure constraints, leisure time physical activity (LPTA)

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Introduction

Parks, recreation, and public health experts have prioritized increasing leisure time physical activity (LTPA) among older adults as a path to improving quality of life and reducing healthcare expenditures. The Centers for Disease Control and Prevention's national health guidelines recommends 30 minutes of physical activity most days of the week (Bylina et al., 2006). Also prioritized is reducing the health disparities that exist between Caucasians and minority populations; which includes African-Americans and Latinos. Increased LTPA could improve quality of life and assist with prevention of heart disease, Type II diabetes, obesity, and mortality. The trends and projections of rapid population increase in the older adult population, rapid population increase in the Latino population, and increased health expenditures supports the need for increasing LTPA. However, constraints to leisure must be identified and understood before we can overcome them. Further, understanding how each group of the older adult population views LTPA benefits and barriers is critical to increasing their levels of LTPA. In addition, before targeted and effective programs can be created and marketed, there needs to be an understanding of the barriers and benefits of LTPA among African-American and Latino older adults. If there are ethnic differences in views regarding barriers and benefits of LTPA, knowing them could help guide community decisions on program implementation.

There are various approaches to exploring leisure constraints (or barriers to leisure) in existing research. One theory is based on Wade and Hoover's (1985) study that dissected leisure constraints into two categories; internal (e.g. physical fitness levels, cognitive social attitudes, and motor skill deficits) and external (social attitudes that could affect opportunities for recreation). A second leisure constraints approach was based on Smith's (1987) study which theorized that leisure constraints consisted of intrinsic (e.g. health problems, lack of knowledge), environmental (e.g. attitudes of others), and interactive barriers (e.g. international travel). A third leisure constraints approach, and the one chosen for this study was the hierarchical leisure constraints theory (Crawford, Jackson, & Godbey, 1991), which was adapted from Crawford and Godbey's 1987 study that identified three types of barriers to leisure: intrapersonal (e.g. depression), interpersonal (e.g. conflicting leisure interest or inability to participate in an activity due to lacking a partner), and structural (e.g. schedule constraints, financial limitations). The hierarchical leisure constraints theory was chosen for this research because it provides an important theoretical framework upon which to base cross-study comparisons. Therefore, the purpose of this study was to determine if there were significant differences in perceptions toward barriers and benefits of LTPA between African-American and Latino older adults.

Background

Americans lack of adequate physical activity (PA) is a national problem (Green et al., 2006). Older adults are the fastest growing subgroup of the population (Belza et al., 2004; Nelson et al., 2007), the most inactive portion of the population (Belza et al., 2004; Buman, Yasova, & Giacobbi Jr., 2010; Nelson et al., 2007), and they account for the most money and resources used for medical care (Nelson et al., 2007). The already rapid growth rate of the older population in the United States is expected to accelerate in the next 20-30 years as millions of baby boomers reach age 65 (Nelson et al., 2007). The rapid population growth of older Americans combined with their increasing health expenditures (Miller and Iris, 2002) makes it important to address their lack of PA, which is a serious health problem in the U.S. (Dergance et al., 2003). Growth is expected at an even faster rate for ethnic minorities, aged

65 and over, than for non-Latino whites. (Mathews et al., 2010; Wilcox, 2002). Population growth for African-Americans aged 65 and over is expected to grow from 7.9% in 2000 to 12.2% by 2050 and population growth for Latinos of the same age range is expected to grow from 4.8% in 2000 to 16.4% of the U.S. population (Mathews et al., 2010).

Individual

PA helps stop the development of several chronic diseases including: osteoporosis, stroke, hypertension, colon cancer, obesity, depression, and coronary heart disease (Eason, Masse, Kelder, & Tortolero, 2002; Harley et al., 2009; Juarbe, Turok, & Perez-Stable, 2002; Lees et al., 2007). Increasing PA is a crucial factor in reducing health disparities, reducing mortality, reducing colon cancer, reducing breast cancer, reducing Type 2 diabetes mellitus, improving body fat distribution, improving physical functioning, and improving mental health (Belza et al., 2004; Buman et al., 2010; Eason et al., 2002; Gonzalez & Jirovec, 2001; Harley et al., 2009; Henderson & Ainsworth 2003; Juarbe et al., 2002; Lees et al., 2007; Mathews et al., 2010; Wilcox, 2002). The process of aging brings changes to bone, muscle, joint flexibility, and balance that could result in older adults having to give up some roles and activities or adapting their participation (Gonzalez & Jirovec, 2001). Physical activity is one of the most changeable and controlled risk factors affecting health (Juarbe et al., 2002), and could help minimize the negative impact of aging on individual lifestyles.

There are multiple recommendations for PA. The American College of Sports Medicine (ACSM) and the Centers for Disease Control and Prevention (CDC) recommend that all Americans engage in 30 minutes of moderate intensity on most days of the week (Bylina et al., 2006; Dergance et al., 2003; Harley et al., 2009; Nelson et al., 2007). Gonzalez and Jirovec (2001) suggested that exercise be done in 20-60 minutes sessions, 3-5 times per week. According to Mathews et al. (2010), older adults should do at least 30 minutes of moderate physical activity five days or 20 minutes of vigorous physical activity three days a week; 8-10 strength exercises two days a week; and flexibility exercises for at least 10 minutes two days a week. The benefits of endurance training for older adults include maintained and improved cardiovascular function, reduced risk factors for illness, improved health status, and a longer life (Melillo et al., 2001). For older adults, strength training helps reduce the impact of muscle loss and loss of strength that comes with aging (Melillo et al., 2001). Increased stability, reduced risk of osteoporosis, and reduced risk of falls are also benefits of endurance and strength training (Melillo et al., 2001). Older adults should do flexibility exercise two days a week, for at least ten minutes per session, to maintain the flexibility they need for regular PA and daily life (Nelson et al., 2007).

Health benefits are a proven result of physical activity, but many older adults still remain sedentary (Bylina et al., 2006; Mouton, Calmbach, Dhanda, Espino, & Hazuda, 2000). Bylina et al. (2006) found that 28-34% of adults aged 65-74 and 35-44% of adults aged 75 and older are completely inactive, rejecting all exercise and/or leisure time physical activity (LTPA). Research has also pointed to the fact that LTPA decreases with age, (Crombie et al., 2004; Goggin & Morrow, 2001) despite the majority of older adults knowing that PA is good for them (Crombieet al., 2004; Goggin & Morrow, 2001). Dergance et al. (2003) found through their study that 58% of older adults were totally sedentary (no LTPA), 29% were doing some level of LTPA, and only 10% met the CDC and ACSM standards.

Minority older adults are even more likely to lead a sedentary lifestyle (Lees et al., 2007; Mouton et al., 2000). Most minority older adults do not meet the CDC recommended PA levels (Mathews et al., 2010, Wilcox, 2002); 61% of a total 65 and over population missed the mark in 2008 compared to 73% for African-

Americans and 66% for Latinos (Mathews et al., 2010). In a survey of 2912 U.S. women 40 and over, Brownson et al. (2000) found the absence of LTPA was highest for American Indians and Alaska Natives, followed by African-Americans, next Latinos, then whites. There was a higher occurrence of preventable chronic diseases in ethnic minority communities in the U.S. (Belza et al., 2004). In general, African-Americans, Latinos, and the economically disadvantaged received lower quality health care and have less access to care (Bylina et al., 2006).

A prominent goal of Healthy People 2010, a U.S. health promotion and disease prevention agenda, is to eliminate health disparities caused by gender, race, ethnicity, education, income, disability, geographic location, and sexual orientation (USDHHS, 2014).A key component to addressing the health disparity for older adults of color is to increase their LTPA levels (Mathews et al., 2010, Wilcox, 2002). Further understanding older adults' perceived barriers to and benefits of LTPA is therefore a necessary precursor to attempting to increase their LTPA levels (Dergance et al., 2003).

Cognitive

Research results have shown that there are various cognitive barriers to PA, of which LTPA is a subset. The following are all cognitive constraints to PA: depression (Belza et al., 2004; Buman et al., 2010), fear of falling (Mathews et al., 2010, Wilcox, 2002), fear of having a heart attack (Wilcox, 2002), feeling self-conscious (Dergance et al., 2003; Wilcox, 2002), belief that exercise is tiring and hard work (Wilcox, 2002), "too tired to exercise" (Henderson & Ainsworth, 2003; Wilcox, Castro, King, Housemann, & Brownson, 2000; Wilcox, 2002;), fatigue and lack of energy (Juarbe et al., 2002; Wilcox et al., 2000), lack of motivation (Buman et al., 2010; Juarbe et al., 2002; Mathews et al., 2010; Melillo et al., 2001; Wilcox, 2002), lack of enjoyment (Mathews et al., 2010), perception of being too old (Mathews et al., 2010; Wilcox, 2002), perception that rest is more important to health than exercise (Dergance et al., 2003; Melillo et al., 2001; Wilcox, 2002), and lack of knowledge and skill (Buman et al., 2010; Dergance et al., 2003; Mathews et al., 2010).

The cognitive benefits of PA of which LTPA is a subset, have also been examined. Researchers found that benefits included the following: reduced stress and tension (Buman et al., 2010; Dergance et al., 2003; Henderson & Ainsworth, 2003; Mathews et al., 2010), enjoyment (Buman et al., 2010; Dergance et al., 2003; Henderson & Ainsworth, 2003; Mathews et al., 2010; Wilcox, 2002), entertainment (Buman et al., 2010; Dergance et al., 2003; Henderson & Ainsworth, 2003; Mathews et al., 2010), energy (Melillo et al., 2001), improved self-esteem (Dergance et al., 2003), improved spirituality (Mathews et al., 2010), and a tool against depression (Belza et al., 2006).

In the existing literature, some studies found different cognitive barriers and benefits were more prevalent by ethnicity. The literature also reflected that something could be both a barrier and perceived as a benefit. For instance, Buman, Yasova, and Glacobbi Jr.'s (2010) study, consisting of predominantly Caucasian participants, found that depression is often a major barrier. In Belza et al.'s (2004) study, which focused on multiple ethnicities (American Indian/ Alaska Native, African-American, Filipino, Chinese, Latino, Korean, and Vietnamese), Spanish speaking Latinos believed that a benefit of PA was that it helped avoid depression.

Rest, laziness, a lack of motivation, and fatigue were also found to be barriers and benefits of PA. Older Latino, African-American, and American Indian women said they were "too tired to exercise" or lacked the energy to exercise (Henderson & Ainsworth, 2003, Juarbe et al., 2002; Wilcox et al., 2000; Wilcox, 2002). In contrast Melillo et al.'s (2001) results indicated that older Latinos felt that PA gave them more energy. There was also a perception that rest is more important than PA for an older person's health among African-Americans (Wilcox, 2002)

and Latinos (Melillo et al., 2001), and that one was "too old" for PA (Mathews et al., 2010; Wilcox, 2002). In contrast, some older adults in Buman et al.'s (2010) study perceived challenging the stereotype of sedentary older adults as a benefit. Lack of motivation or laziness was identified as a barrier by older Latino men and women, African-American men and women, Caucasian men and women, American Indian women, and Asian women (Buman et al., 2010; Juarbe et al., 2002; Mathews et al., 2010; Melillo et al., 2001; Wilcox, 2002).

Fear was a consistent barrier to PA. African-American, Latino, Asian, and American Indian older women cited a fear of having a heart attack as a barrier to their physical activity (Wilcox, 2002). Fear of falling was a barrier for older adults across ethnicities (Wilcox, 2002). There was also a fear related to appearance and feeling self-conscious (Wilcox, 2002). Feeling self-conscious was a major barrier for older Mexican-American women, even though they perceived improved self-esteem as a benefit of PA (Dergance et al., 2003).

Improved mental health in the form of less stress and tension and improved mood was found to be a benefit for older African-American women (Henderson and Ainsworth, 2003) and Latinos (Dergance et al., 2003, Mathews et al., 2010). Buman et al.'s (2010) study, which consisted of mostly Caucasian participants 50 to 80 years of age, also found improved mental health or state of mind as a perceived benefit of PA. Enjoyment and entertainment as benefits of PA also spanned ethnicities. Both were perceived as benefits of PA by Caucasians (Buman et al., 2010), African-American men and women (Henderson & Ainsworth, 2003; Mathews et al., 2010; Wilcox, 2002), Latinos (Dergance et al., 2003), and American Indian women (Mathews et al., 2010; Wilcox, 2002).

Physical

The physical barriers to PA, of which LTPA is a subset, were also explored in many studies. The predominant physical barriers often found by research were health conditions including disability or physical symptoms (Belza et al., 2004; Crombie et al., 2004; Dergance et al., 2003; Henderson & Ainsworth, 2003; Juarbe et al., 2002; Mathews et al., 2010, Wilcox, 2002). The physical benefits of PA, of which LTPA is a subset, were increased muscle strength (Buman et al., 2010; Dergance et al., 2003; Henderson & Ainsworth, 2003; Mathews et al., 2010), improved health (Mathews et al., 2010), improved physical fitness (Mathews et al., 2010), and weight management (Mathews et al., 2010).

In the existing literature, some studies found different physical barriers and benefits were more prevalent by ethnicity. Health conditions and disabilities were identified as major barriers for older African-American and Mexican-American women (Dergance et al., 2003; Mathews et al., 2010, Wilcox, 2002). Poor health or a newly diagnosed condition can be a motivator to increase PA (Belza et al., 2004). Interestingly, the absence of a specifically identified health problem or disease can coexist with the perception of poor health as a barrier. For example, physical symptoms like shortness of breath, leg swelling, knee and back pain, and fatigue were a major barrier for older African-American women (Henderson & Ainsworth, 2003; Wilcox, 2002). In Crombie et al.'s (2004) study, 27% of older reported having joint pain on most days or every day, while 12% reported shortness of breath when physically active. Older women of the African-American, Latino, Asian, and American Indian ethnicities cited arthritis as a barrier to their physical activity (Wilcox, 2002). In Juarbe et al.'s (2002) study, Latinas named diabetes, hypertension, and chronic joint pain as personal health barriers to PA. Improved health was viewed as a benefit by Latino women, and African-American men and women (Mathews et al., 2010), and increased muscle strength was perceived as a benefit of PA by African-American women (Henderson,

2003), Latinos (Dergance, 2003), and Caucasian older adults.

Interpersonal

Several interpersonal barriers to PA, of which LTPA is a subset, were identified in the research. Such barriers as care giving duties (Henderson & Ainsworth, 2003; Wilcox et al., 2000), family issues (Henderson & Ainsworth, 2003; Mathews et al., 2010; Wilcox, 2002), lack of family support (Juarbe et al., 2002), work/job responsibilities (Gonzalez & Jirovec, 2001), lack of community support (Melillo et al., 2001), community obligations (Henderson & Ainsworth, 2003; Mathews et al., 2010; Wilcox, 2002), lack of companionship (Dergance et al., 2003) including not having a walking partner (Henderson & Ainsworth, 2000; Henderson & Ainsworth, 2003), and lack of time were all found (Buman et al., 2010; Dergance et al., 2003; Gonzalez & Jirovec, 2001; Henderson & Ainsworth, 2003; Juarbe et al., 2002; Mathews et al., 2010; Melillo et al., 2001; Wilcox et al., 2001, Wilcox, 2002).

Research results also identified several interpersonal benefits of PA, such as not being a burden to the family (Belza et al., 2004), passing on good habits to one's children (Juarbe et al., 2002), stronger social networks (Henderson & Ainsworth, 2003), better work performance (Juarbe et al., 2002), and socialization. In the existing literature, several studies found different interpersonal barriers and benefits were more prevalent by ethnicity. Social support, in some form, played a part in each barrier or benefit. The barrier of not having a walking partner was given by African-American women and American-Indian women (Henderson & Ainsworth, 2000; Henderson & Ainsworth, 2003). The lack of companionship barrier was also seen in the older Latinos' responses (Dergance, 2003) and specific response of "don't want to be alone" and desire to "interact in their own language" (Melillo et al., 2001). Walking was identified as the most popular recreational activity or an important physical activity (Belza et al., 20004; Brownson et al., 2000; Buman et al., 2010; Crombie et al., 2004; Henderson & Ainsworth, 2000; Henderson & Ainsworth, 2003; Melillo et al., 2001). On the benefit side, participants in Belza et al.'s (2004) study found that PA promoted socialization. Lees et al.'s (2007) study found more of a positive correlation between social-support networks and PA level in older African-American women and Latino women. For African-Americans, friends who encouraged them to be physically active were an important enabler of their PA (Belza et al., 2004).

Lack of time was intertwined with family and nonfamily obligation barriers to LTPA. Lack of time was listed as a barrier by Latinos, African-Americans, American-Indian women, Asian women, Caucasians, and Mexican women (Buman et al., 2010; Dergance et al., 2003; Gonzalez & Jirovec, 2001; Henderson & Ainsworth, 2003; Juarbe et al., 2002; Mathews et al., 2010; Melillo et al., 2001; Wilcox et al., 2001, Wilcox, 2002). A further examination of the items that take up that time, found that most are related to family obligations. Buman et al.'s (2010) participants named childcare and elder parent care as part of their lack of time barrier issue. Other responsibilities that contributed to lack of time to LTPA were care giving of spouses, grandchildren, and other family members, volunteer obligations, and civic organization duties (Juarbe et al., 2002).

Built Environment

The built environment barriers to PA, of which LTPA is a subset, were safety (Belza et al., 2004; Crombie et al., 2004; Henderson & Ainsworth, 2003; Lees et al., 2007; Wilcox, 2002), facilities (Buman et al., 2010; Dergance et al., 2003; Henderson & Ainsworth, 2003; Lees et al., 2007; Mathews et al., 2010; Wilcox, 2002) , cost (Belza et al., 2004; Buman et al., 2010; Juarbe et al., 2002), and transportation (Belza et al., 2004; Crombie et al., 2004; Dergance et al., 2003; Juarbe et al., 2002; Mathews et al., 2010). There were several sug-

gestions on improving the built environment, from participants and researchers. For instance, distance to facilities or exercise locations were a barrier for African-American and American-Indian women (Henderson & Ainsworth, 2003; Mathews et al., 2010; Wilcox, 2002). A lack of facilities was cited as a barrier to LTPA in Dergance et al.'s (2003) study by Latinos. The cost of facilities was identified as a barrier by African-American women, American-Indian women, and Latinas (Henderson & Ainsworth, 2003; Juarbe et al., 2002; Mathews et al., 2010; Wilcox, 2002). In Lees et al.'s (2007) study of urban ethnic minority women, participants identified a lack of low cost or no cost facilities as a LTPA barrier.

Safety barriers to LTPA for older adults included sidewalk disrepair, unleashed dogs, and personal safety issues. A fear of walking in their own neighborhood, was a safety barrier for older urban minority women (Wilcox, 2002). Some African-American and American-Indian women had a similar view, that their neighborhood was not safe (Henderson & Ainsworth, 2003; Wilcox, 2002). Even some older Caucasian adults in Scotland cited fear of going out at night in their neighborhoods as a barrier to LTPA (Crombie et al., 2004). Finally, the potential for injury was found to be a safety factor for older adults. For example, in Lees et al.'s (2007) study of urban ethnic minority women, sidewalks in need of repair was cited as a barrier. Transportation as a barrier to LTPA also seemed to have greater effect on ethnic minorities. In Mathews et al.'s (2010) multicultural study, African-American women cited transportation as a barrier to their LTPA. Latinos also stated that transportation was a barrier to LPTA (Dergance et al., 2003; Juarbe et al., 2002). Unreliable transportation, including inadequate availability and frequency, was identified as a barrier across multiple ethnicities in Belza et al.'s (2004) study.

In summary, there were conflicting positions among studies as to whether ethnicity was a factor on LTPA barriers and benefits. Some of that disagreement was based on the connection between ethnicity and socioeconomic factors. Dergance et al. (2003) did not find that lower education and socioeconomic status were major factors in lower LTPA. Juarbe et al. (2002) found that older Latina women viewed barriers to PA through the lens of family obligations as compared to other ethnic minorities. Belza et al. (2004) determined that there were differences in PA barriers and benefits, but that the similarities outweighed the differences. Mathews et al. (2010) concluded that there were differences by ethnicity in PA barriers and enablers. Because of the existing health disparities (USDHHS, 2000) and the related cost implications of rising healthcare expenditures for older adults (Miller & Iris, 2002), innovative approaches should be employed to reach and raise the LTPA levels of ethnic minority adults (Wilcox, 2000).

Thus, the existing literature heavily promotes increased LTPA as a way to improve health of the overall aging population, reduce the health disparity for ethnic minorities, help retain cognitive functionality, and help maintain the ability to live independently. The existing literature also consistently points out that many older adults are chronically inactive, which results in increased chronic disease and healthcare costs.

Methods

Purpose

The purpose of this study was to determine if there were significant differences in perceptions toward barriers and benefits of LTPA between African-American and Latino older adults. The study took place at various locations around the east-central part of the Piedmont region in North Carolina. The locations included meeting rooms and lobbies in Churches, Senior Life Centers, and the Mexican Consulate. The sites were chosen by taking cues from studies considered in the literature review where data was collected in non-clinical settings, and on the advice of sources trusted by the Latino community.

Sample

A convenience sample of *n*=125 African-American and Latino older adults were asked to participate in the study. The survey was translated into Spanish to engage participants who did not speak English or spoke very little English. Participants were asked to volunteer for the survey during the months of March through October. Based on previous research, only those participants who were 50 and over, and self-identified as African-American or Latino were chosen (Table 1).

Instruments

The Mouton, Calmbach, Dhanda, Espino, and Hazuda (2000) survey for assessing barriers and benefits to LTPA, which was modified from the San Diego Health and Exercise Questionnaire (SDHEQ) instrument (Sallis, Hovell, & Hofstetter, 1992), was employed in this quantitative study to examine perceived barriers to and benefits of LTPA in older African-American adults and older Latino adults. The survey consisted of the Barriers to Physical Activity subscale and the Benefits of Physical Activity subscale (Mouton et al., 2000; Dergance et al., 2003). The instrument was tested and used by Mouton (2000) with elderly Mexican American and European Americans. Dergance (2003) also used the instrument

Table 1

Demographics of African American and Latino Percentages

Demographic Characteristic	African-American Percentage (N = 89)	Latino Percentage (N = 36)	Total
Gender			
Female	82.7%	17.3%	100%
Male	53.8%	46.2%	100%
Ethnicity	71%	29%	100%
Marital Status			
Living Together	57.4%	42.6%	100%
Married	80.0%	20.0%	100%
Never Married	100%	0%	100%
Separated/Divorced	89.5%	10.5%	100%
Widowed	100%	0%	100%
Annual Income			
Under $10,000	53.8%	46.2%	100%
$10,000-$14,999	66.7%	33.3%	100%
$15,000-$19,999	71.4%	28.6%	100%
$20,000-$24,999	71.4%	28.6%	100%
$25,000-$34,999	66.7%	33.3%	100%
$35,000-$49,999	87.5%	12.5%	100%
$50,000 and over	96.4%	3.6%	100%

with elderly Mexican Americans and European Americans. Mouton's (2000) study found a Cronbach coefficient alpha of .75 or higher for each subscale. The survey entailed five demographic questions, 16 questions on perceived barriers (how often feeling self-conscious, lack of self-discipline, lack of interest, lack of time, lack of energy, not enjoying exercise, lack of company, discouragement, lack of equipment, lack of good weather, lack of skills, lack of facilities and space, lack of good health, lack of knowledge on how to exercise, and fear of injury), and 10 questions on perceived benefits of LTPA (feel less depressed or bored, feel better about themselves/improved self-esteem, meet new people, lose weight or improve shape, build muscle strength, improve their health, make them better at their job, feel more attractive, feel less tension or stress, and improve their heart and lung fitness).

The investigator had the English version of the questionnaire and the English version of the consent form translated into Spanish versions using machine translation; the Google Translator tool. For additional accuracy, the researcher had a native Spanish speaker check and correct the machine translation. The investigator met with each pastor or director, explained the purpose of the study, and asked for assistance in identifying the appropriate people to participate in the study.

Finally, once an older adult was identified and agreed to participate, they were given a copy of the consent to participate in a research study form, given a writing utensil, and asked to complete the survey. When requested, the survey questions were read aloud for participants to complete the survey. After completing the survey, the participants were asked to return the survey to a designated area or to the investigator.

Data Analysis

Data Analysis for this quantitative study involved two steps. First demographic variables from the questionnaire (age, gender, ethnicity, income) were analyzed using descriptive statistics. Second, similar to the methods used in the Bylina et al. (2006), Green et al. (2006), and Mathews et al. (2010) studies, and because the data were assumed to not reflect a normal distribution, a Chi-square analysis was used to analyze data from the questionnaire. Additionally, the t-test method was used to analyze the difference between the African-American and Latino older adults' beliefs.

Results

Of the n=125 study participants, there were 89 (71%) African-American and 36 (29%) Latinos. Sixty-seven percent (n = 81) of study participants were female and 33% (n = 39) were male. The age category that had the highest amount of older adult participants (89 African-American, 36 Latino, *M*age = 70, age range 50-96 years) was the 65-74 age category. The mode age was 68 (Table 2). Analysis of the data revealed that the largest barrier to LTPA identified by African-American participants was lack of self-discipline (Table 3). While Latinos' responses to the barrier question indicated that lack of knowledge, lack of facilities or space, lack of good health, and lack of energy most often prevented LTPA (Table 4). The largest benefits of LTPA identified by African-American participants were the following: feel better about themselves (improved self-esteem), meet new people, lose weight or improve shape, build muscle strength, improve their health, feel more attractive, feel less tension or stress, and improve their heart and lung fitness (Table 5). In contrast, Latinos' perceived gaining such benefits as improved self-esteem, doing better on their job, and improved heart/lung fitness from their LTPA (Table 6). There were significant differences in how older African-American and older Latino adults perceived benefits of and barriers to LTPA. Results indicated that African-American older adults were significantly more positive about their health than Latino older adults x2(2, N = 118) = 10.84, p = .004. Further, chi-square analyses of the data found 14 items

that resulted in significant differences between the ethnicities for LTPA barriers (Table 7); and three significant benefits (build muscle strength, feel less stress or tension, and feel more attractive) (Table 8).

Table 2
Breakdown of Participants' Age by Race

Age Categories	African-American Older Adult Females	African-American Older Adult Males	Latino Older Adult Females	Latino Older Adult Males
50-64	8	8	2	9
65-74	36	7	12	6
75-84	15	3	0	3
85-96	8	2	0	0
Total	67	20	14	18

Table 3
African Americans' Responses for the LTPA Barrier (A Lack of Self-Discipline)

Perception of Lack of Self Discipline	Low	Medium	High	Total
Number of African American Responses	55	21	13	89
Percent of African American Responses	61.8%	23.6%	14.6%	100%

Table 4
Latinos' Responses Regarding the Presence of LTPA Barriers

Perception of LPTA Barriers	Low	Medium	High	Total
Lack of Knowledge				
Number	14	4	16	34
Percent in Latino	41.2%	11.8%	47.1%	100%
Lack Facilities/Space				
Number	12	8	15	35
Percent Latino	34.3%	22.9%	42.9%	100%
Lack Good Health				
Number	9	12	14	35
Percent Latino	25.7%	34.3%	40.0%	100%
Lack Energy				
Number	9	12	14	35
Percent Latino	25.7%	34.3%	40.0%	100%

Table 5
African-Americans' Responses Regarding the Presence of LTPA Benefits

Perception of LPTA Benefits	Low	Medium	High	Total
	1	25	63	89
Improve heart/lung fitness*				
Percent	1.1%	28.1%	70.8%	100%
Feel less tension/stress*	7	24	57	88
Percent	11.2%	27.6%	49.2%	100%
Build muscle strength*	2	32	54	88
Percent	1.7%	27.1%	45.8%	100%
Improve health*	3	28	58	89
Percent	3.4%	31.5%	65.2%	100%
Feel more attractive*	13	32	44	89
Percent	14.6%	36.0%	49.4%	100%
Lose weight/improve shape*	12	30	47	89
Percent	13.5%	33.7%	52.8%	100%
Improved self-esteem*	14	34	41	89
Percent	15.7%	38.2%	46.1%	100%
Meet new people*	11	35	43	89
Percent	12.4%	39.3%	48.3%	100%

*Number of Participants

Table 6
Latinos' Responses Regarding the Presence of LTPA Benefits

Perception of LPTA Benefits	Low	Medium	High	Total
Improve Self-Esteem*	7	10	13	30
Percent	23.3%	33.3%	43.3%	100%
Better on Job*	10	9	11	28
Percent	33.3%	30.0%	36.7%	100%
Heart/Lung Fitness*	2	13	16	29
Percent	6.5%	41.9%	6.5%	100%

*Number of Participants

Table 7
LTPA Barriers Pearson Chi-Square Analysis

Barrier (n or valid cases)	Value	df	p
Self-Conscious (124)	45.51	2	.000*
Lack Interest (124)	16.82	2	.000*
Lack Self-Discipline (122)	6.59	2	.037*
Lack Time (123)	.914	2	.633
Lack Energy (124)	16.24	2	.000*
Lack Company (123)	14.38	2	.001*
Lack Enjoyment (124)	8.78	2	.012*
Discouragement (121)	9.42	2	.009*
Lack Equipment (122)	6.45	2	.040*
Lack Good Weather (123)	15.70	2	.000*
Lack Skills (124)	43.13	2	.000*
Lack Facilities (124)	46.10	2	.000*
Lack Knowledge (123)	49.58	2	.000*
Fear of Injury (124)	10.64	2	.005*
Lack Good Health (124)	34.53	2	.000*

* Statistically significant difference, $p \leq .05$

Table 8
LTPA Benefits Pearson Chi-Square Analysis

Benefit (n or valid cases)	Value	df	p
Feel Less Depressed/Bored (120)	3.94	2	.139
Improve Self-Esteem (119)	0.92	2	.633
Meet New People (119)	0.26	2	.894
Lose Weight/Improve Shape (119)	1.76	2	.414
Build Muscle Strength (118)	16.54	2	.000*
Feel Less Stress/Tension (118)	12.84	2	.002*
Improve Health (120)	4.08	2	.130
Better at Job (108)	1.58	2	.454
Feel More Attractive (117)	10.51	2	.005*
Improve Heart/Lung Fitness (120)	5.29	2	.071

* Statistically significant difference, $p \leq .05$

Additional analysis was performed using t-tests. Regarding LTPA benefit perceptions, only 'improvement of heart and lung fitness' showed a significant difference between older African-Americans and older Latinos (t=-1.986, p<0.01) (Table 9). In contrast, 11 out of 15 barrier perceptions showed significant differences between the older African-American and older Latino adults. The 11 barriers were 'feeling self-conscious' (t=5.123, p<0.01), 'lack company' (t=3.362, p<0.01), 'lack enjoyment' (t=2.665, p<0.01), discouragement' (t=1.990, p<0.01), 'lack equipment' (t=2.196, p<0.01), 'lack good weather' (t=2.935, p<0.01), 'lacks skills' (t=6.037, p<0.01), 'lack facilities' (t=6.131, p<0.01), 'lack knowledge' (t=5.758, p<0.01), 'fear of injury' (t=2.685, p<0.01), and 'lack of good health' (t=5.591, p<0.01) (Table 10). Further, a majority of the African-American participants were retired, while most of the Latino older adults still worked. Also found was a challenge outside the scope of the survey questions, the language barrier experienced by primarily Spanish speakers. According to a gerontologist who works exclusively with the Latino population, "there is a large problem with many Latino older adults experiencing depression because they feel stuck at home due to their limited language capability."

Table 9
LTPA Benefits t-test Analysis

	Overall		African-American		Latino			
Benefit	*M(N)*	*SD*	*M(n)*	*SD*	*M(n)*	*SD*	*t*	*p*
Feel Less Depressed/Bored	1.88(120)	0.79	1.82(89)	0.76	2.03(31)	0.87	-1.283	0.22
Improve Self-Esteem	1.72(119)	0.78	1.70(89)	0.73	1.80(30)	0.81	0.654	0.49
Meet New People	1.66(119)	0.69	1.64(89)	0.69	1.70(30)	0.70	0.405	0.86
Lose Weight or Improve Shape	1.64(119)	0.71	1.61(89)	0.72	1.73(30)	0.69	0.844	0.43
Build Muscle Strength	1.53(118)	0.64	1.41(88)	0.54	1.90(30)	0.76	3.860	0.99
Feel Less Stress/Tension	1.57(118)	0.71	1.43(88)	0.64	1.97(30)	0.76	-3.758	0.79
Improve Health	1.43(120)	0.56	1.38(89)	0.55	1.58(31)	0.56	1.711	0.57
Better at Job	2.09(108)	0.87	2.14(78)	0.88	1.97(30)	0.85	0.932	0.32
Feel More Attractive	1.78(117)	0.76	1.65(89)	0.72	2.18(28)	0.72	3.358	0.44
Improve Heart/Lung Fitness	1.37(120)	0.53	1.30(89)	0.49	1.55(31)	0.62	1.986	<.01**

*p≤ .05, **p<0.01

Table 10
LTPA Barriers t-test Analysis

	Overall		African-American		Latino			
Barrier	*M(N)*	*SD*	*M(n)*	*SD*	*M(n)*	*SD*	*t*	*p*
Self-Conscious	2.74(124)	0.58	2.94(89)	0.28	2.23(35)	0.81	5.123	<.01**
Lack Interest	2.46(124)	0.74	2.63(89)	0.63	2.03(35)	0.82	3.898	0.06
Lack Self-Discipline	2.36(122)	0.79	2.47(89)	0.74	2.06(33)	0.86	2.604	0.24
Lack Time	2.44(123)	0.71	2.47(89)	0.69	2.35(34)	0.77	0.825	0.29
Lack Energy	2.27(124)	0.76	2.43(89)	0.67	1.86(35)	0.81	4.004	0.22
Lack Company	2.57(123)	0.71	2.72(88)	0.58	2.18(34)	0.87	3.362	<.01**
Lack Enjoyment	2.57(124)	0.71	2.69(88)	0.61	2.28(36)	0.85	2.665	<.01**
Discouragement	2.86(121)	0.41	2.92(89)	0.27	2.69(32)	0.64	1.990	<.01**
Lack Equipment	2.66(122)	0.64	2.75(89)	0.55	2.42(33)	0.79	2.196	<.01**
Lack Good Weather	2.62(123)	0.63	2.74(89)	0.49	2.29(34)	0.84	2.935	<.01**
Lack Skills	2.62(124)	0.64	2.87(89)	0.38	2.03(35)	0.79	6.037	<.01**
Lack Facilities	2.60(124)	0.71	2.87(89)	0.38	1.91(35)	0.89	6.131	<.01**
Lack Knowledge	2.63(123)	0.70	2.90(89)	0.30	1.94(34)	0.95	5.758	<.01**
Fear of Injury	2.71(124)	0.61	2.83(88)	0.46	2.44(36)	0.81	2.685	<.01**
Lack Good Health	2.45(124)	0.73	2.69(89)	0.54	1.86(35)	0.81	5.591	<.01**

*p≤ .05, **p<0.01

Discussion

Increasing LTPA in older African-American and Latino adults is important for their improved quality of life, their healthy aging, society's cultural enrichment, and society's reduced medical costs. A health disparity exists between Caucasians and older minorities of color, which include African-Americans and Latino older adults, for many health conditions (Bylina et al., 2006; Mathews et al., 2010; Wilcox et al., 2002). Socioeconomic disadvantages manifest themselves as a health disparity factor in the form of poorer quality care and reduced access to care (Bylina et al., 2006).

Physical activity is a fundamental part of reducing the onset of various health conditions. Also, physical activity is important for improving body fat distribution, physical functioning, and mental health (Henderson & Ainsworth, 2003; Mathews et al., 2010; Wilcox et al., 2002). Older adults should do at least 30 minutes of moderate to vigorous physical activity 5 days or 20 minutes vigorous physical activity 3-5 days each week; and flexibility exercises for at least 10 minutes 2 days a week (Mathews et al., 2010). Many older adults know that they should exercise 3-5 times a week (Bylina et al., 2006; Crombie et al., 2004). However, there is a gap between older adults knowing how often they should be active and achieving those activity levels. Even with awareness of the health benefits of exercise, many older adults are sedentary or not engaging in enough LTPA (Bylina et al., 2006).

African-American LTPA Perceptions

The first and third research questions asked what African-American adults' perceptions were toward barriers and benefits of LTPA. African American older adults did not perceive feeling self-conscious, lack of self-discipline, lack of interest, lack of time, lack of energy, not enjoying exercise, lack of company, discouragement, lack of equipment, lack of good weather, lack of skills, lack of facilities and space, lack of good health, and fear of injury as major barriers to their LTPA. The number one barrier to LTPA perceived by the African-American participants, meaning the barrier with the most "High" responses, was lack of self-discipline (Table 3). African American older adults had eight strongly perceived benefits of LTPA, which were feeling less tension or stress, improving their heart and lung fitness, improved self-esteem, meeting new people, losing weight or maintaining their shape, improved muscle strength, improved health, and feeling more attractive (Table 5).

In the context of the hierarchical leisure constraints framework, lack of self-discipline, feeling less tension or stress, improved their heart and lung fitness, improved self-esteem, losing weight or maintaining their shape, improved muscle strength, improved health, and feeling more attractive are in the intrapersonal category. Meeting new people would be in the interpersonal category. The hierarchical leisure constraints theory states that intrapersonal, interpersonal, and structural constraints exist on three different levels and that those levels of leisure constraints are experienced by people in a fixed order.

An area where research is lacking in application of the theory of hierarchical leisure constraints is for the older adult population (Godbey et al., 2010). The results of the older African-Americans perceived barriers and benefits adds information to the framework for older minority adults, but more importantly assists in the determination as to where African-Americans were in negotiating the intrapersonal → interpersonal → structural leisure constraints process. Knowing that they did not perceive strong intrapersonal barriers, but did have two strongly perceived intrapersonal benefits (less stress or tension, improved heart and lung fitness) means that focus on increasing these older adults' LTPA needs could be tailored to their perceived benefits.

Latino LTPA Perceptions

The second and fourth research questions asked what older Latino adults' perceptions were toward barriers and benefits of LTPA. Findings indicated that this population did not perceive feeling self-conscious, lack of self-discipline, lack of interest, lack of time, not enjoying exercise, lack of company, discouragement, lack of good weather, lack of skills, lack of equipment, and fear of injury as major barriers to their LTPA. The Latino older adults' strongly perceived barriers to LTPA were lack of knowledge, lack of facilities or space, lack of good health, and lack of energy (Table 4). Latino older adults' strongly perceived benefits were improved self-esteem, improved heart and lung fitness, and doing better on their job (Table 6).

In the context of the hierarchical leisure constraints framework, lack of knowledge, lack of energy and lack of good health are considered intrapersonal barriers and lack of facilities/space considered a structural barrier. The benefits of improved self-esteem and improved heart and lung fitness were in the intrapersonal category. The benefit of doing better on their job was in the structural category. The study results for older Latino adults' perceived barriers and benefits added information to the framework for older minority adults. The survey results also assisted in determining where the Latino older adults in this study were in negotiating the intrapersonal → interpersonal → structural leisure constraints process. Consequently, promotion and engagement to increase LTPA among Latino older adults may be more effective if the programmer has prior knowledge of the older adults' perceived barriers and benefits; as well as knowledge of where they are in negotiating the leisure constraints process.

This study builds support for the importance of understanding the varying perceptions and barriers to physical activity of these two populations. While African-Americans seemed comfortable and confident about their knowledge, abilities, and access with regard to LTPA, Latino older adults were on the other end of the spectrum, perceiving strong barriers and benefits in each of the leisure constraints levels. African-American older adults had two strongly held perceptions of the benefits of LTPA; feeling less tension or stress and improving their cardiovascular fitness - leading to program planning and marketing implications for recreation professionals. The number one barrier to LTPA perceived by the African-American participants, meaning the barrier with the most "High" responses, was lack of self-discipline. Latino older adults perceived several strong barriers to LTPA; a lack of knowledge, a lack of facilities or space, a lack of good health, and a lack of energy. They also had several strong perceptions of the benefits of LTPA. Those perceptions included meeting new people, improved self-esteem, being better on their job, improved heart/lung fitness, and feeling less depressed or bored. The survey results assisted in determining where Latino older adults were in negotiating the intrapersonal, interpersonal, and structural leisure constraints process. Knowing that this population perceived strong barriers and benefits in each of the leisure constraint levels means that emphasis on increasing their LTPA should be addressed in this group.

In conclusion, the findings of this study contradict previous research that found older adults' strongly perceived barriers included feeling self-conscious and lack of knowledge (Dergance et al., 2003, Mathews et al., 2010), lack of companionship (Dergance et al., 2003; Sebastiao, 2014), lack of facilities (Crombie et al., 2004; Dergance et al., 2003; Henderson & Ainsworth, 2003; Lees et al., 2007), family ob-

ligations (Henderson & Ainsworth, 2003; Juarbe et al., 2000), lack of time (Buman et al.,2010; Henderson & Ainsworth, 2003), and fear of injury (Buman et al., 2010). However, the findings of this study were congruent with prior research that cited health as a strongly perceived benefit (Buman et al., 2010).

Implications

Though this was a small study, the findings provide a starting point for understanding older adult minorities' perceptions of benefits and barriers to LPTA. As we begin to see a graying of many countries, an exploration of these results and other studies on older minority adults will be imperative if we hope to challenge traditional methods of programming, marketing, and motivating older adults to engage in physical activity. We will also need to create new strategies for promoting awareness of the importance of leisure time physical activity for older adults. Therefore, when recreation professionals are targeting African-American older adults, they may want to plan and include in their marketing messages programs that reduce stress and improve heart and lung fitness. Those two items usually complement each other, so this combination would be achievable. These programs should include physical activities that are attractive to older AA adults - facilitating physical activity programs in churches and senior centers (Sebastiao et al., 2014). This would address social barriers to participation. In addition, Sebastiao et al. (2015) recommend that marketing materials used to educate and engage older African Americans be culturally relevant and modified to reflect their level of language and interest.

Similarly, ideas for consideration in removing perceived barriers for Latino older adults will be promoting activities at places where Latino people gather, feel safe, and have a recognized and trusted advocate. The recreation professional would also need to collaborate with the person viewed as the trusted advocate to effectively reach the Latino audience. Several Latino survey participants indicated that they did not have the knowledge or access to facilities to do LTPA. Further, even though the survey was translated into Spanish, it was important to have someone fluent in Spanish available to assist with questions, vouch for the researcher, and confirm that the information collected was only for research purposes. To help address this gap, recreation professionals could create a Spanish language tri-fold that outlines free activities, LTPA recommendations, and have a monthly Spanish language information session to answer LTPA questions and demonstrate different simple ways to reach recommended LTPA levels. It may also be an effective strategy to reach older Latino adults through their school aged family members - creating an inter-generational program. The Latino culture has a strong focus on family, so any approach that involves multiple generations is likely to meet with more success.

Limitations Due to the exploratory nature of this research, there were several limitations including the sample size, sampling strategy, language fluency, and ethnicity. The sampling size was limited by the time and budget of a single researcher. Conducting the survey in all 100 North Carolina counties would have yielded a larger sample size. Regarding sampling strategy, it would have been ideal to conduct the survey in individual's homes in their primary language, thereby enabling some biometric data collection (weight, body fat), which could provide additional insight into study participants. Another limitation of the study was the African-American English speaking, only, researcher. A Latino and bilingual researcher, English and Spanish, would have been able to access the Latino community without needing consistent advocate's assistance.

Conclusion

In conclusion, while there is a growing body of research on LTPA perceptions for the under 50 age group and Caucasian population, there is less research on older adults (50 and over age group) and ethnic groups that include African-Americans and Latinos. However, information on how to get older African-American and older Latino adults to increase their LTPA is integral to closing the health disparity gap in the United States between Caucasians, African-Americans and Latinos, improving older adults' quality of life, and attempting to reduce the healthcare cost exposure created by the explosive growth of the older adult population. Further research is needed that expands, on a state or national level evaluation of LTPA perceptions of older African-American and older Latino adults. This study could serve as a basis for future research focused on additional minority groups, such as Asian Americans and American Indians.

Finally, research is needed that addresses the identified barriers and promotes the identified benefits, then measures whether LTPA increases in the short and long term. By understanding perceptions of barriers and benefits to LTPA, recreation and health professionals will be able to more effectively motivate and assist older African-American and older Latino adults in reaching and maintaining adequate LTPA levels. In addition, it could help recreation and health agencies more effectively prioritize budgets and give insight on how to create effective targeted marketing messages.

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