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Effects of Acculturation and Access on Recreation Participation Among Latinos

MARIELA FERNANDEZ
KIMBERLY J. SHINEW
MONIKA STODOLSKA

Department of Recreation, Sport and Tourism
University of Illinois at Urbana-Champaign
Champaign, IL, USA

Latinos' utilization of natural environments in urban areas is affected by a myriad of factors, including acculturation levels and access to natural environments. This study examined the differences in access to natural environments and acculturation levels among Latinos residing in two urban communities and explored the determinants of recreation participation in natural environments. Questionnaires were randomly distributed to 392 Latino households. Descriptive statistics, parametric tests, multiple linear regressions, and binary logistic regressions were utilized in the analyses. Significant differences were found between Latinos residing in the two communities in terms of demographics, acculturation, and access to natural environments, which impacted their frequency of participation in various recreational activities. A major finding of this study was that access to natural environments significantly increases the likelihood of recreation participation. Future interventions may need to focus on increasing access to natural environments in Latino communities.

Keywords access, acculturation, Latinos, natural environments, recreation participation

Introduction

The literature on recreation participation of Latinos in natural environments has grown steadily over the last 30 years. This increased research activity is not surprising given that Latinos now constitute the largest minority group in the United States, and it is estimated that approximately 80 million members of this group will be added to the U.S. population during the next 30 years (U.S. Census, 2011). Although many new Latinos settle in the southeastern United States, cities such as Chicago, Los Angeles, Houston, and New York remain gateways for much of the Latino immigration (Motel & Pattern, 2012). Of these centers, Metropolitan Chicago is home to 1.8 million people of Latino descent, split about equally between those born in the United States and new immigrants (Chicago Metropolitan Agency for Planning, 2011).

In general, Latinos have a strong environmental ethic and affinity toward natural environments (Johnson-Gaither, 2014; Lynch, 1993; Noe & Snow, 1990). Such a close

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Address correspondence to Mariela Fernandez, Department of Recreation, Sport and Tourism, University of Illinois at Urbana-Champaign, 104 Huff Hall, 1206 South Fourth Street, Champaign, IL 61820. E-mail: mfrndz2@illinois.edu

relationship with nature is displayed by residents of many Latin American countries who organize family events in outdoor environments and incorporate gardens as part of their household design (Stodolska, Shinew, Acevedo, & Izenstark, 2011). This attachment to nature is brought to the United States by Latino immigrants who frequently recreate in national forests (Chavez, 1993; Floyd & Gramann, 1993) and urban parks (Gobster, 2002; Ho et al., 2005; Tinsley, Tinsley, & Croskeys, 2002). Their desire to use natural environments for recreation may also be amplified because parks and forest preserves often constitute the only sites for low-cost recreation available in minority neighborhoods, which may be important for newcomers who are often constrained by a lack of financial resources (Juniu, 2000; Stodolska & Santos, 2006).

Latinos' utilization of natural environments in urban areas is likely to be affected by a range of factors including crime and safety issues, interracial conflict and discrimination, acculturation levels, and access to and maintenance of such environments (Stodolska et al., 2011). Understanding and eliminating deterrents of outdoor recreation participation are important as Latinos generally are less likely to engage in leisure-time physical activity and more likely to be affected by a variety of health-related ailments when compared to non-Hispanic Whites (e.g., Taylor, Floyd, Whitt-Glover, & Brooks, 2007). Access to outdoor recreation spaces and activities may help offset the negative health risks associated with their lower levels of physical activity.

The purpose of this study was to learn more about recreation participation in natural environments among Latinos. We defined urban natural environments as city parks, greenways, neighborhood mini-parks, lakeshore areas, bicycle/walking trails, outdoor playing fields, urban forests, forest preserves, community gardens, and backyards. The terms natural environments, natural areas, and outdoor greenery were used interchangeably. In particular, the study's objectives were to examine differences in acculturation levels and access to natural environments among Latinos residing in two urban communities and the determinants of Latinos' participation in recreation activities in natural environments. The New Assimilation Framework guided the study (Alba & Nee, 2003; Keefe & Padilla, 1987).

Literature Review

The goal of this literature review is to provide a background helpful in placing the results of this study in context. Thus, this section will first examine research on the recreational use of natural environments by Latinos and then on the two determinants of this recreational use that are of particular interest in this study—acculturation and access to natural environments.

Latinos' Recreational Use of Natural Environments

The literature has consistently documented that Latinos recreating in natural environments have a preference for participation in activities such as picnicking, relaxing, and being with family (Chavez, 1996; Gobster, 2002; Hutchison, 1987; Hutchison & Fidel, 1984). They have been found to recreate in large, multigenerational, family-oriented groups that include women, children, and older adults (Chavez, 1996; Gobster, 2002; Hutchison, 1987; Hutchison & Fidel, 1984; Irwin, Gartner, & Phelps, 1990). Unlike members of other user groups, Latinos who engage in picnicking and barbecuing in parks and natural preserves prepare most of their foods on site and spend significantly longer amounts of time in outdoor recreation places (Chavez, 1993; Cronan, Shinew, & Stodolska, 2008). When surveyed about their preferences for natural environments, Latinos indicated that they preferred well-developed and maintained sites that included fire rings, toilets, and camping space at each site (Irwin et al., 1990).

A large number of studies have also examined Latinos' motivations for recreation participation in outdoor environments. Most of this research has shown that Latinos are motivated by strong family values, including the desire to share experiences with family members and to increase bonds among the extended family (Berg, Cromwell, & Arnett, 2002; Floyd & Gramann, 1993; Hutchison & Fidel, 1984; Hutchison, 1987; Irwin et al., 1990; Pfister & Ewert, 1993). Differences in recreation behavior between Latinos and members of other groups have been traced to a number of factors, including their unique culture and changes in their cultural patterns to that of the "American mainstream" (i.e., acculturation) and access to natural environments. These two factors are of particular interest in this study and will be reviewed in detail.

Determinants of the Recreational Use of Natural Environments by Latinos

Acculturation. Cultural differences, including changes in Latinos' cultural patterns resulting from direct and sustained contact with members of the White mainstream and other ethnic groups (Gordon, 1964), have been one of the most often quoted reasons for the unique leisure behavior among Latinos recreating in natural environments. For instance, Floyd and Gramann (1993) showed that the greater the levels of acculturation, the more similar Mexican Americans were to Anglos in terms of recreation participation. Less structurally assimilated Mexican Americans participated in fewer outdoor recreation activities and visited the Tonto National Forest less often than their more assimilated counterparts and Anglos. Conversely, Gómez (2002) discovered that higher acculturated Puerto Ricans were less likely to visit parks than less acculturated or bicultural Puerto Ricans. Gramann, Floyd, and Saenz (1993) focused on benefits of outdoor recreation among Mexican Americans and Anglos and found that Mexican Americans with the highest acculturation and structural assimilation scores rated family togetherness, as a recreation benefit, much higher than Anglos and the least acculturated Mexican Americans. Shaull and Gramann (1998) further examined the "recreation benefits associated with family cohesiveness" (p. 54) among Hispanics in California and discovered that bicultural Hispanics rated family-related benefits in recreation as more important than less or more acculturated Hispanics.

Access to natural environments. The potential effects of access to natural environments as determinants of outdoor recreation behavior among Latinos have also been explored in a number of studies. Bedimo-Rung, Mowen, and Cohen (2005) characterized access as the availability of park space in a given community, the "equitable distribution of parks across different types of neighborhood" (p. 165), geographic distance an individual must travel to the park, and the ease of navigating within a park. Stodolska et al. (2011) also mentioned that access to quality parks in a Latino neighborhood was hindered by racial boundaries where certain park spaces were perceived to "belong" to the African American community (p. 114). Accessibility problems were also related to the lack of transportation, poor maintenance of park spaces, safety concerns, and lack of culturally sensitive promotional materials among other items.

Other studies have discussed geographic distance as limiting access to natural areas. For instance, as Gobster (2002) indicated, findings of past research showed a tendency for non-Hispanic Whites to travel farther and to visit parks and natural areas more frequently than members of minority populations (e.g., Dwyer, 1994; Scott & Munson, 1994). He further claimed that these findings "raise questions about various dimensions of access to recreation sites" (p. 144) such as physical distance to the place of residence and the cost and availability of transportation that may constrain the use of natural environments among minorities. Contrary to expectations, in his study it was the minority park users who came

from farther away to visit Lincoln Park in Chicago and who were more likely to travel by car or public transportation. Non-Hispanic Whites traveled the least amount of time, but they also resided in closer proximity to the Lincoln Park, which is located in downtown Chicago and is surrounded by upper-class primarily Caucasian neighborhoods. Byrne, Wolch, and Zhang (2009) also noted that Latinos and Asians travelled farther to visit the Santa Monica Mountains National Recreation Area, an urban national park, but were less likely to return. This park was also situated next to an affluent, White community, despite the National Park Service's goal to "bring nature within reach of people of colour and the urban poor" (p. 383). In a 2007 study, Gómez and Malega explored whether distance from the park, the individual characteristics of minority members, and the characteristics of the neighborhoods in which they resided affected Puerto Ricans' use of parks and perceived park benefits. The findings showed that the distance from the park was not a significant predictor of its use, but that it affected perceived benefits associated with park usage.

The scholarship that has examined Latinos' recreational behavior in natural environments posits that they differ in their activity preferences and recreation styles when compared to other racial and ethnic groups. The factors that are responsible for these differences are numerous and range from their unique culture to access to natural environments. This study is designed to contribute to this strand of literature.

Theoretical Background

The majority of research conducted in the leisure field up until the end of 1990s on cross cultural differences in leisure was based on Gordon's (1964) seminal work *Assimilation in American Life* and adopted his definitions of assimilation and its subprocesses. According to Gordon, acculturation is the first subprocess of assimilation. It refers to a "change of cultural patterns [among minority groups] to those of the host society" (p. 71) and precedes other components of assimilation, such as structural assimilation and behavioral-receptional assimilation. It involves the acquisition by a minority group of cultural characteristics such as diet, religion, and language of the majority population. Acculturation could occur in the absence of other forms of assimilation and the state of "acculturation only" could persist indefinitely (Gordon, 1964).

Despite numerous criticisms leveled against the assimilation theory in the 1980s and 1990s (Alba & Nee, 1997), the concepts of assimilation and acculturation have received renewed attention in the recent decade. In 2003, Alba and Nee proposed the *new assimilation theory* and defined assimilation as the "decline of an ethnic distinction and its corollary cultural and social differences" (p. 11). Additionally, Keefe and Padilla (1987) acknowledged that "acculturation is defined as one type of cultural change—specifically, change occurring as the result of continuous contact between cultural groups. The process of change may affect one or both groups, and furthermore, it may affect any cultural trait" (p. 15). Although they stressed that the process of change may be bi-directional, they also acknowledged that acculturation has usually been seen as involving changes in the culture of minority groups who become more like the mainstream. Keefe and Padilla proposed three different acculturation models: Single Continuum Model, Multidimensional Model, and Two-Culture Matrix Model. The last of these three is of particular interest in this study. In this model, "the two cultural systems are treated independently as separate axes forming a matrix. Each culture is conceived as a single continuum, and individuals may vary in the acceptance of and adherence to the two cultures" (p. 16; see Figure 1).

Individuals who lost traits of their home culture and substituted them with the traits of the host culture are *acculturated*, those who added traits from the new culture without simultaneous loss of traditional traits are *bicultural*, those who maintained traits of their

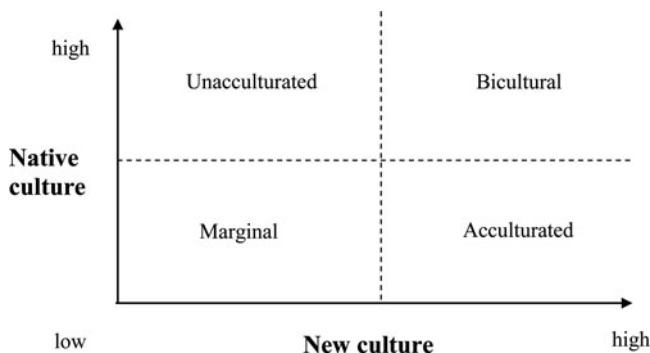


FIGURE 1 Two-culture matrix model of acculturation. Adapted from S.E. Keefe and A.M. Padilla (1987).

home culture and did not augment them with the traits of the new culture are *unacculturated*, and those who do not fully accept either culture are *marginal*. Keefe and Padilla (1987) chose the term *cultural blends* to describe bicultural individuals. These individuals were seen as highly adept in both the culture of their home country and the American traditions, participate selectively in both cultural orientations, and demonstrate loyalty that fluctuates between the two. This article employs the New Assimilation Theory proposed by Alba and Nee, along with Keefe and Padilla's Two-Culture Matrix Model of acculturation, to investigate the determinants of participation in recreational activities in natural environments among Latinos.

Methods

The Locations

Two Chicago neighborhoods were selected for this study—East Side and Little Village. East Side is an industrial-type, predominantly Latino neighborhood located south of South Chicago, close to the Illinois-Indiana border. In 2010, out of 23,042 residents, 78% were Latino (Chicago Police Department, 2010). The community has access to a number of large parks, including Calumet Park (198 acres) in Chicago, Forsythe Park (65 acres) and Whiting Park (15 acres) in Indiana, and Wolf Lake Park (976 acres) located on the state line. Calumet and Whiting Parks feature access to Lake Michigan beaches.

Little Village is a predominantly working class Latino community with little access to natural areas. In 2010, out of 79,288 residents, 83% were Latino (Chicago Police Department, 2010). In 2006, there were two parks located on the opposite edges of the community—Douglas, which is rarely utilized by Latino residents because it is known as a “Black park,” and Piotrowski, a relatively small (11.2 acres) but heavily used community park. Although Little Village has obtained additional natural areas in the neighborhood in the past decade, it is still regarded as one of the communities in Chicago with the least access to green space (Enlace Chicago, 2013; Kolak, 2009).

Survey Administration

A questionnaire was distributed July and August 2006 to 392 households, 199 in Little Village and 193 in East Side. Each of the neighborhoods was divided into a grid with numbered plots in order to ensure uniform distribution. Based on the number of surveys

to be distributed within the neighborhood, it was calculated how many surveys had to be completed within each plot. Surveys were administered door-to-door by trained college students of Latino descent who were fluent in Spanish (Marin & Marin, 1991). They worked in pairs, each comprising a man and a woman. Some research on the effects of gender on the interview process has shown that female interviewers were able to garner greater responses from interviewees (Asher, 2013). In the case of this study, sending only female interviewers to make house visits would have been a safety concern; sending only male interviewers may have been intimidating for some Latino families. As such, male and female worked in pairs to make residents more comfortable with the survey workers and increase the response rate.

Residents were read a protocol describing the purpose of the study and asked if they were of Latino background; if so, they were asked if they would like to participate in the survey. Only one person, at least 18 years of age, was interviewed per household. When residents were absent, at least two additional recruiting visits were attempted. In Little Village, 741 total individuals were approached; 527 Latinos refused participation while another 15 residents were ineligible due to being of non-Latino descent. This resulted in a 27.4% response rate in Little Village. In East Side, 515 total individuals were approached; 242 Latinos refused participation while another 80 residents were ineligible due to being of non-Latino descent. This resulted in a 47% response rate in East Side. The relatively low response rate among Little Village residents may have been due to the higher number of undocumented immigrants in this community (Anderson, Stodolska, Shinew, & Gobster, 2006; Enlace Chicago, 2013) or that non respondents feared authority figures (Marin & Marin, 1991). Nonresponse bias was not calculated; however, plausible strategies to maximize the response rate were followed, such as contacting respondents by a member of their own ethnic group and preparing the questionnaires in both Spanish and English (Marin & Marin, 1991).

Measurement Instruments

Demographic variables. This study was able to control for key demographic variables that past research has indicated impact recreation patterns (e.g., Jackson, 2005; Stodolska, Shinew, & Li, 2010). For instance, research has shown that as individuals grow older, their physical activity rates decrease (Crespo, 2000; McGuire & Norman, 2005). As such, age was included as a control variable; age was determined by asking respondents the year they were born. Moreover, research has shown that females may face more challenges in regards to recreation participation, which may decrease their participation rates (Bialeschki, 2005; Shaw & Henderson, 2005). As such, a nominal variable was utilized to determine participants' sex (women = 1; men = 0). Different life stages, particularly whether participants remain single, married with children, and so forth may also impact leisure behavior (Jackson, 2005; Harvey & Singleton, 1995) so this study controlled for marital status. Respondents were given a list of six items, and a dummy code was subsequently created for those indicating they were single. Other socioeconomic variables, such as education and income levels, have also been shown to impact recreation participation (Kelly, 1999) and thus were controlled for in this study. For education level, participants were given a list of seven items, which were collapsed into the following four categories: (1) some high school or less, (2) high school completed, (3) some college, and (4) graduated from college or more. Finally, to assess income levels, participants were given a list of 11 categories, which were collapsed into the following four categories: (1) \$0–19,999, (2) \$20,000–29,999, (3) \$30,000–39,999, and (4) \$40,000 and above.

Participation in recreation activities. In order to measure respondents' participation in recreation activities in natural areas, they were first asked if they visited any parks or other natural areas. If participants stated yes, then they were asked about how often they engaged in specific recreation activities in natural areas in summer months. A list of 34 activities including passive activities (e.g., sitting/resting/relaxing, barbequing), physical activities (e.g., walking, biking), consumptive activities (e.g., fishing and hunting), appreciative activities (e.g., camping, bird watching), and mechanized outdoor recreation (e.g., ATV riding and motorcycling/off-road biking) was provided. The 5-point scale ranging from "Never" to "Daily or almost daily." An index was created by first creating dummy codes for each recreation activity. A 0 was assigned to answer choices signifying non-participation (e.g., Never). All other responses (e.g., Once a month through Daily) were regarded as participation in the recreation activity and were assigned a 1. The recreation activities were then divided into five recreation participation categories (e.g., passive, physical, consumptive, appreciative, and mechanized) and summed. Higher scores signified that respondents participated in more recreation activities in natural environments during the summer months.

Acculturation. The Bidimensional Acculturation Scale for Hispanics (BAS) was used to measure acculturation (Marín & Gamba, 1996). The participants answered six questions regarding their English proficiency and six questions regarding their Spanish proficiency (e.g., ability to speak, read, understanding TV programs). A 4-item scale ranging from "Very poorly" to "Very well" was used. Following the scoring protocol of Marín and Gamba (1996), to calculate the acculturation score, the answers to the six items measured within each cultural domain were averaged across items for each respondent. Participants received two scores: an average score for their English proficiency domain and an average score for Spanish proficiency domain, ranging from 1 to 4. Subsequently, each respondent was assigned an acculturation category, using a score of 2.5 as a cutoff point to indicate low or high level of adherence to each cultural domain. Respondents who scored above 2.5 on the English domain and below 2.5 on the Spanish domain were classified as acculturated. Those who scored above 2.5 on the Spanish domain and below 2.5 on the English domain were classified as unacculturated. Those who scored above 2.5 on both cultural domains were classified as bicultural. Those who scored below 2.5 on both domains were classified as marginal. Since there were only two "marginal" individuals, these cases were excluded from further analysis. Acculturation was entered into the models as two dummy variables (for acculturated individuals and for bicultural individuals). Unacculturated individuals were treated as the base scenario.

Access to natural environments. For this study, the neighborhood in which the residents resided was used as a proxy for the access to natural environments (Little Village = low access; East Side = high access). A nominal variable was utilized to determine participants' access to private, proximate greenery. Residents were asked if they had access to a backyard in the place where they resided. A dummy code was created by assigning a 1 to yes responses and a 0 to no responses.

Data Manipulation and Analysis

A total of 142 survey respondents were excluded from further this analysis because they reported not visiting natural areas during the summer months. The remaining 250 questionnaires included data collected from 144 participants from Little Village and 106 participants from East Side. The remaining data were assessed for missing cases. There were approximately 3% of data missing for the recreation activities, sex, and education, while the

income variable had approximately 14.4% of missing data. A missing value analysis was conducted in this phase. The Little's MCAR Test was not significant, suggesting that a multiple imputation was an appropriate technique for handling the missing data. A multiple imputation with five imputations was conducted (Scholomer, Bauman, & Card, 2010).

Further, the determinants of recreation participation among Latino residents were analyzed for different categories of recreation activities (e.g., passive, appreciative activities) as well as separate recreation activities (e.g., sitting/resting/relaxing, walking). A multiple linear regression was utilized to isolate the determinants of different categories of recreation activities. Data were first tested to determine whether they violated statistical assumptions, such as multicollinearity. The collinearity statistics revealed variance inflation factors (VIF) of less than three, suggesting that multicollinearity was not a problem. Additionally, the zero-order correlations between variables were examined (correlations not presented), and although some of the correlations were significant, the magnitude of the correlation coefficients were not suggestive of multicollinearity (Tabachnick & Fidell, 1996). In effect, the created five indexes of passive, physical, consumptive, appreciative, and mechanized of recreation activities were entered as the dependent variables. Demographic information, acculturation, and access were entered as independent variables in the study.

Binary logistic regression models were estimated to isolate the determinants of participation in the top three recreational activities in which respondents participated in natural areas in both communities. While the majority of past studies focused on recreation participation in natural environments among Latinos at a general level (e.g., park visitation), little is known about participation in specific recreation activities among this group (e.g., Cronan et al., 2008). Disaggregating activity participation will provide more useful information for practitioners who may want to better understand recreation patterns among this group in order to increase participation in specific activities (e.g., active recreation). In Little Village, participants reported participating in sitting/resting/relaxing, talking/socializing, and walking more so than in any other activities. In East Side, participants reported participating in talking/socializing, lake swimming, and dog walking more so than in any other activities. A dummy code for participation was created for each of these recreation activities by assigning a 1 to participation (e.g., respondents marked once a month to daily on survey instrument) in the given activity and a 0 to non-participation (e.g., respondents marked never on survey instrument) in the given activity during the summer months. Considering that the participation variable was dichotomous, a binary logistic regression was again used as a method to analyze the data (Demaris, 1995). Sitting/resting/relaxing, walking, talking/socializing, lake swimming, and dog walking were individually entered as the dependent variables. Demographic information, acculturation, and access were entered as independent variables in the model.

Findings

Descriptive Statistics

The residents from Little Village and East Side significantly differed on several demographic variables (see Table 1). Only 22% of respondents from East Side reported being born outside of the United States compared with 78.1% of the respondents from Little Village. Among the first generation immigrants, those from East Side spent on average 16.9 years in the United States, and those from Little Village spent approximately 11.6 years in the United States. East Side residents were also more educated and had higher income levels. They also included a higher proportion of people of Puerto Rican origin (31.7%) than residents of Little Village (4.8%), who were mainly (87.8%) of Mexican descent.

TABLE 1 Sample Characteristics by Location of Residence

| | Little Village | East Side | Test Results |
|--|----------------|------------|--------------|
| <i>Sex</i> | | | χ^2 |
| Women | 95 (50) | 109 (58.6) | 2.80 |
| Men | 95 (50) | 77 (41.4) | |
| <i>Average age (in years)</i> | 33.1 | 30.65 | F value .81 |
| <i>Marital status</i> | 120 | 84 | χ^2 |
| Single | | | 12.77*** |
| <i>Education level</i> | | | χ^2 |
| Some high school or less | 78 (41.0) | 22 (11.8) | 47.36*** |
| Completed high school | 49 (25.8) | 67 (36.0) | |
| Some college | 47 (24.7) | 52 (28.0) | |
| College graduate | 16 (8.4) | 45 (24.2) | |
| <i>Income level</i> | | | χ^2 |
| 0-\$19,999 | 86 (45.3) | 6 (3.2) | 151.05*** |
| \$20,000-29,999 | 41(21.6) | 11 (5.9) | |
| \$30,000-39,999 | 28 (14.7) | 50 (26.9) | |
| \$40,000 and over | 35(18.4) | 119 (64.0) | |
| <i>Generation status</i> | | | χ^2 |
| Born in the U.S. | 41 (21.9) | 145 (78.0) | 117.11*** |
| Immigrant | 146 (78.1) | 41 (22) | |
| <i>Average years spent in the U.S. (for immigrants only)</i> | 11.62 | 16.9 | F value .61 |
| <i>Country of birth (for immigrants only)</i> | | | χ^2 |
| Mexico | 129 (87.8) | 25 (61.0) | 24.47*** |
| Puerto Rico | 7 (4.8) | 13 (31.7) | |
| Other Latin American country | 11 (7.5) | 3 (7.3) | |
| <i>Acculturation status</i> | | | χ^2 |
| Unacculturated | 84 (44.2) | 0 (0) | 128.22*** |
| Bicultural | 106 (55.8) | 149 (80.1) | |
| Acculturated | 0 (0) | 37 (19.9) | |

Note. *Coefficient significant at $p < 0.05$; **Coefficient significant at $p < 0.01$; ***Coefficient significant at $p < 0.001$.

Neighborhood Differences in Participation in Recreation Activities, Acculturation, and Access to Natural Environments

Participation in recreation activities. Chi-square tests were conducted to evaluate the differences in recreation patterns in natural areas during the summer months among visitors from Little Village and East Side. Results showed that Little Village residents participated more often in passive activities of sitting/resting/relaxing ($\chi^2 (4, N = 250) = 39.59; p < 0.001$) and sightseeing/hanging out ($\chi^2 (4, N = 250) = 52.20; p < 0.001$), as well as in the active pastime of walking ($\chi^2 (4, N = 250) = 31.96; p < 0.001$) compared with East Side residents. Conversely, East Side Latinos participated more frequently in almost all physical activities, appreciative activities, consumptive activities, and mechanized outdoor activities when compared to Little Village residents. These included activities such as soccer ($\chi^2 (4, N = 250) = 11.49; p < 0.05$), lake swimming ($\chi^2 (4, N = 250) = 114.23; p < 0.001$), boating/canoeing/kayaking ($\chi^2 (4, N = 250) = 139.09; p < 0.001$), hiking ($\chi^2 (3,$

$N = 250$) = 28.09; $p < 0.001$), fishing (χ^2 (4, $N = 250$) = 95.20; $p < 0.001$), and ATV riding (χ^2 (4, $N = 250$) = 97.23; $p < 0.001$).

Acculturation. There were significant differences between East Side and Little Village residents regarding acculturation (χ^2 (2, $N = 376$) = 128.22, $p < 0.001$; see Table 1). About one-fifth of East Side residents identified as being acculturated versus none of the respondents from Little Village. More respondents from Little Village were unacculturated versus respondents from East Side (42.4% vs. 0%). The majority of Little Village and East Side respondents reported being bicultural, yet the proportion was higher for East Side (80.1% vs. 55.8% in Little Village).

Access to natural environments. Little Village had less access to natural environments than East Side. While East Side had been considered a neighborhood with “open space surplus” (exceeds City of Chicago standard of 2 acres for every 1,000 residents) (*Chicago Tribune*, 2011), Little Village had only 61 acres of public open space for more than 79,000 residents—the second lowest open space-to-resident ratio of the 77 Chicago community areas (LVCDC, 2005). Moreover, there was a significant difference in access to backyards, with Little Village respondents reporting significantly less access (χ^2 (1, $N = 376$) = 14.18; $p < 0.001$).

Determinants of Latinos' Participation in Different Categories of Recreation Activities

Effects of demographic variables. Table 2 shows the results of the regression model of the determinants of Latinos' participation in different categories of recreation activities. The results showed that gender was a significant predictor of participation in physical, consumptive, appreciative, and mechanized activities, with women being less likely to participate in activities in each of these categories. Further, age was negatively and significantly associated with participation in consumptive, appreciative, and mechanized activities, meaning that younger respondents were more likely to participate in activities in each of these categories. Education was positively and significantly associated with participation in physical and appreciative activities. For instance, individuals reporting to have some college education were more likely to participate in appreciative activities when compared to individuals receiving less than a high school degree, holding all variables constant. As it relates to income, individuals reporting incomes of \$20,000–29,999 were less likely to participate in passive activities when compared to individuals with income levels under \$20,000, holding all other variables constant.

Effects of acculturation. Results showed that acculturation was a significant predictor of participation in passive, physical, and appreciative activities (see Table 2). Acculturated and bicultural Latinos reported lower rates of participation in passive and appreciative activities than unacculturated Latinos, all other variables held constant. Additionally, bicultural Latinos reported lower participation rates in physical activities than unacculturated Latinos.

Effects of level of access to natural environments. Results showed that people who had higher access to parks were more frequently engaged in passive, physical, consumptive, appreciative, and mechanized outdoor activities (see Table 2). Access to backyards was not a significant predictor of participation in any of the groups of recreation activities.

Determinants of Latinos' Participation in Separate Activities

In Little Village, participants reported participating in sitting/resting/relaxing ($M = 3.07$), talking/socializing ($M = 2.69$), and walking ($M = 2.68$) more so than in any other activities.

TABLE 2 Multiple Linear Regression Analysis of Acculturation, and Park and Backyard Access on Different Categories of Recreation Activities ($N = 250$)

| | Dependent Variables | | | | |
|------------------|---------------------------|---------------------|------------------------|-------------------------|-------------------------------|
| | Passive activities | Physical activities | Consumptive activities | Appreciative activities | Mechanized outdoor activities |
| Acculturated | -1.07* (.44) ^a | -1.47 (.91) | -.28 (.18) | -1.16*** (.35) | -.17 (.18) |
| Bicultural | -.62* (.27) | -1.52** (.54) | -.09 (.11) | -.57** (.21) | -.15 (.11) |
| Park access | 1.84*** (.27) | 4.36** (.53) | .83** (.11) | 2.13*** (.24) | .92*** (.11) |
| Backyard access | -.05 (.24) | -.67 (.48) | -.02 (.10) | -0.004 (.20) | -.02 (.10) |
| Women | -.05 (.19) | -1.82*** (.39) | -.52*** (.08) | -.19** (.15) | -.53*** (.08) |
| Single | -.09 (.19) | -.10 (.39) | .11 (.08) | -.22 (.16) | -.02 (.08) |
| Age | -.00 (.01) | -.03 (.02) | -.02*** (.003) | -.02* (.01) | -.10*** (.00) |
| High school | .06 (.25) | 1.00* (.50) | -1.7 (.10) | -.12 (.20) | -.02 (.10) |
| Some college | -.39 (.29) | 1.51** (.58) | -.12 (.12) | .11*** (.25) | -.03 (.12) |
| College graduate | .23 (.35) | 1.38 (.70) | -.19 (.14) | .33 (.30) | .09 (.15) |
| \$20,000-29,999 | -.74** (.29) | -1.73 (.60) | -.19 (.12) | -.29 (.23) | -.13 (.12) |
| \$30,000-39,999 | -.21 (.30) | -.55 (.64) | .04 (.13) | -.07 (.26) | .12 (.16) |
| \$40,000 or more | -.11 (.35) | -.17 (.68) | .14 (.14) | .03 (.40) | .08 (.18) |
| Constant | 3.89*** (.44) | 6.47 (.89) | .93*** (.18) | 1.68 (.35) | .73*** (.18) |
| R ² | .29 | .49 | .50 | .47 | .54 |

Note. ^aStandard errors represented; *Coefficient significant at $p < 0.05$; **Coefficient significant at $p < 0.01$; ***Coefficient significant at $p < 0.001$.

TABLE 3 Logistic Regression Predicting Participation in Sitting/resting/relaxing ($N = 250$)

| | β | S.E. | Wald | Odds Ratio | 95.0% C.I. for Odds Ratio | |
|--------------------|----------|------|-------|------------|---------------------------|-------|
| | | | | | Lower | Upper |
| Acculturated | -.84 | .72 | .09 | .66 | .09 | 4.51 |
| Bicultural | -.44 | .99 | 1.42 | .25 | .11 | 1.77 |
| Park access | .11 | .47 | .01 | .81 | .45 | 2.79 |
| Backyard access | -.02 | .51 | .00 | .98 | .36 | 2.66 |
| Women | .58 | .40 | 1.90 | .15 | .82 | 3.87 |
| Single | -.58 | .43 | 1.82 | .18 | .24 | 1.31 |
| Age | .06 | .03 | 3.00 | .08 | .99 | 1.12 |
| High school degree | -.07 | .55 | .00 | .90 | .31 | 2.76 |
| Some college | -.51 | .57 | .70 | .37 | .20 | 1.84 |
| College graduate | .47 | .79 | .45 | .55 | .34 | 7.59 |
| \$20,000–29,999 | -.56 | .73 | .71 | .45 | .14 | 2.39 |
| \$30,000–39,000 | -1.68*** | .56 | 10.05 | .00 | .06 | .56 |
| \$40,000 or more | -1.06 | .56 | 3.48 | .06 | .12 | 1.04 |

Note. *Coefficient significant at $p < 0.05$; **Coefficient significant at $p < 0.01$; ***Coefficient significant at $p < 0.001$.

In East Side, participants reported participating in talking/socializing ($M = 3.17$), lake swimming ($M = 2.72$), and dog walking ($M = 2.50$) more so than in any other activities. These five recreation activities were chosen for the binary logistic regression models as they were the activities in which most of the residents reported frequent participation.

Sitting/resting/relaxing. The logistic regression model regarding participation in sitting/resting/relaxing was statistically significant. As a measure of effect size, Nagelkerke R squared was calculated at 20.1%. As shown in Table 3, only income was a statistically significant predictor variable. Individuals reporting incomes of \$30,000–39,999 were at reduced odds of engaging in sitting/resting/relaxing while visiting natural environments compared with individuals reporting income levels under \$20,000 (OR = .001; 95% CI = .06, .56), all other variables held constant.

Walking. The logistic regression model regarding walking was statistically significant. As a measure of effect size, Nagelkerke R squared was calculated at 14.9%. As shown in Table 4, only education and income were statistically significant predictors of walking. Individuals reporting higher education levels (a college degree or beyond) were 5.2 times more likely to engage in walking while visiting natural areas than those with less than a high school degree (OR = 5.2; 95% CI = 1.05–25.82), controlling for other factors in the model. Additionally, individuals reporting incomes of \$20,000–29,999 were at reduced odds of engaging in walking while visiting parks or other natural areas compared to those with income levels below \$20,000 (OR = .67; 95% CI = .15–.92), all variables held constant.

Talking/socializing. The logistic regression model regarding talking was statistically significant. As a measure of effect size, Nagelkerke R squared was calculated at 23.3%. As shown in Table 5, only acculturation and access were statistically significant. Individuals with access to natural environments were 18.5 times more likely to talk/socialize while in

TABLE 4 Logistic Regression Predicting Participation in Walking ($N = 250$)

| | β | S.E. | Wald | Odds Ratio | 95.0% C.I. for Odds Ratio | |
|--------------------|---------|------|------|------------|---------------------------|-------|
| | | | | | Lower | Upper |
| Acculturated | -1.27 | .73 | 3.33 | .28 | .07 | 1.17 |
| Bicultural | -.63 | .46 | 1.97 | .54 | .22 | 1.31 |
| Park access | .38 | .40 | .73 | 1.46 | .67 | 3.17 |
| Backyard access | .06 | .41 | .06 | 1.06 | .47 | 2.39 |
| Women | .36 | .32 | 1.23 | 1.43 | .77 | 2.66 |
| Single | -.59 | .34 | 4.08 | .55 | .29 | 1.07 |
| Age | .02 | .02 | 1.10 | 1.02 | .98 | 1.05 |
| High school degree | -.11 | .41 | .06 | .90 | .41 | 1.99 |
| Some college | -.53 | .45 | 1.62 | .59 | .24 | 1.41 |
| College graduate | 1.65* | .82 | 4.05 | 5.2 | 1.05 | 25.82 |
| \$20,000-29,999 | -1.00* | .47 | 4.63 | .67 | .15 | .92 |
| \$30,000-39,000 | -.37 | .47 | .66 | .69 | .27 | 1.76 |
| \$40,000 or more | .03 | .46 | .15 | 1.03 | .41 | 2.55 |

Note. *Coefficient significant at $p < 0.05$; **Coefficient significant at $p < 0.01$; ***Coefficient significant at $p < 0.001$.

TABLE 5 Logistic Regression Predicting Participation in Talking/Socializing ($N = 250$)

| | β | S.E. | Wald | Odds Ratio | 95.0% C.I. for Odds Ratio | |
|--------------------|---------|------|-------|------------|---------------------------|-------|
| | | | | | Lower | Upper |
| Acculturated | -2.51** | .91 | 7.37 | .08 | .01 | .48 |
| Bicultural | -.98* | .46 | 4.71 | .38 | .15 | .92 |
| Park access | 2.92*** | .60 | 23.34 | 18.54 | 5.68 | 60.53 |
| Backyard access | -.70 | .46 | 2.31 | .50 | .20 | 1.22 |
| Women | -.22 | .36 | .32 | .80 | .39 | 1.63 |
| Single | .25 | .37 | .18 | 1.28 | .62 | 2.64 |
| Age | -.01 | .02 | .32 | .99 | .96 | 1.02 |
| High school degree | -.50 | .46 | 1.12 | .61 | .25 | 1.49 |
| Some college | -.28 | .53 | .30 | .76 | .27 | 2.16 |
| College graduate | -.73* | .62 | 1.49 | .48 | .14 | 1.63 |
| \$20,000-29,999 | .02* | .49 | .04 | 1.02 | .38 | 2.71 |
| \$30,000-39,000 | -.23 | .55 | .00 | .79 | .27 | 2.34 |
| \$40,000 or more | -.17 | .58 | .00 | .85 | .27 | 2.64 |

Note. *Coefficient significant at $p < 0.05$; **Coefficient significant at $p < 0.01$; ***Coefficient significant at $p < 0.001$.

TABLE 6 Logistic Regression Predicting Participation in Lake Swimming ($N = 250$)

| | β | S.E. | Wald | Odds Ratio | 95.0% C.I. for Odds Ratio | |
|--------------------|---------|------|-------|------------|---------------------------|--------|
| | | | | | Lower | Upper |
| Acculturated | -2.25** | .86 | 6.53 | .11 | .02 | .57 |
| Bicultural | -1.05* | .49 | 4.91 | .35 | .14 | .90 |
| Park access | 3.61*** | .55 | 45.58 | 36.84 | 12.59 | 107.80 |
| Backyard access | .40 | .47 | .71 | 1.49 | .59 | 3.76 |
| Women | -.39 | .38 | 1.11 | .68 | .33 | 1.42 |
| Single | .68 | .42 | 2.31 | 1.97 | .87 | 4.49 |
| Age | -.10*** | .03 | 15.40 | .91 | .87 | .95 |
| High school degree | .82 | .48 | 2.81 | 2.27 | .88 | 5.84 |
| Some college | .90 | .55 | 2.77 | 2.45 | .83 | 7.25 |
| College graduate | .91 | .64 | 2.02 | 2.47 | .70 | 8.73 |
| \$20,000-29,999 | -.27 | .53 | .15 | .76 | .27 | 2.15 |
| \$30,000-39,000 | .38 | .60 | 1.11 | 1.46 | .45 | 4.68 |
| \$40,000 or more | -.40 | .58 | .52 | .67 | .22 | 2.08 |

Note. *Coefficient significant at $p < 0.05$; **Coefficient significant at $p < 0.01$; ***Coefficient significant at $p < 0.001$.

natural areas than those who did not have access (OR = 18.54; 95% CI = 5.68–60.53), holding all variables constant. Acculturated (OR = .08; 95% CI = .01–.48) and bicultural individuals (OR = .38; 95% CI = .15–.92) were at reduced odds at engaging in talking/socializing while visiting natural areas than unacculturated individuals, holding all variables constant.

Lake swimming. The logistic regression model regarding lake swimming was statistically significant. As a measure of effect size, Nagelkerke R squared was calculated at 56.7%. As shown in Table 6, only acculturation, access to natural areas, and age were statistically significant predictor variables. Individuals with access to natural areas were 36.8 times more likely to engage in swimming while visiting parks than those who did not have access (OR = 36.8; 95% CI = 12.59–107.80), holding all variables constant. Additionally, acculturated (OR = .11; 95% CI = .02–.57) and bicultural individuals (OR = .35; 95% CI = .14–.90) were at reduced odds for participating in swimming while visiting natural areas than unacculturated individuals, controlling for other factors in the model. Finally, younger respondents were at reduced odds for visiting natural areas for lake swimming than older respondents (OR = .91; 95% CI = .87–.95), controlling for all other factors in the model.

Dog walking. The logistic regression model regarding dog walking was statistically significant. As a measure of effect size, Nagelkerke R squared was calculated at 52.3%. As shown in Table 7, only access to natural areas and income were statistically significant predictor variables. Individuals with access to natural environments were 23.5 times more likely to walk their dogs in parks than those who did not have access, holding all variables constant (OR = 23.5; 95% CI = 8.41–65.73). Individuals reporting income levels of \$20,000–29,999 were at reduced odds at visiting parks for dog walking than individuals with incomes below \$20,000, all variables held constant (OR = .07; 95% CI = .01–.64).

TABLE 7 Logistic Regression Predicting Participation in Dog Walking ($N = 250$)

| | β | S.E. | Wald | Odds Ratio | 95.0% C.I. for Odds Ratio | |
|--------------------|---------|------|-------|------------|---------------------------|-------|
| | | | | | Lower | Upper |
| Acculturated | -1.05 | .90 | 1.24 | .35 | .06 | 2.05 |
| Bicultural | -.86 | .70 | 1.41 | .42 | .11 | 1.65 |
| Park access | 3.16*** | .52 | 38.03 | 23.52 | 8.41 | 65.73 |
| Backyard access | .29 | .50 | .55 | 1.34 | .50 | 3.59 |
| Women | -.56 | .38 | 2.26 | .57 | .27 | 1.21 |
| Single | .11 | .39 | .00 | 1.12 | .52 | 2.42 |
| Age | -.03 | .02 | 2.02 | .97 | .94 | 1.01 |
| High school degree | -.02 | .57 | .01 | .98 | .32 | 3.00 |
| Some college | .82 | .62 | 1.65 | 2.26 | .67 | 7.64 |
| College graduate | 1.14 | .72 | 2.31 | 3.11 | .76 | 12.82 |
| \$20,000–29,999 | -2.64* | 1.12 | 5.28 | .07 | .01 | .64 |
| \$30,000–39,000 | .10 | .56 | .01 | 1.11 | .37 | 3.35 |
| \$40,000 or more | -.39 | .58 | .13 | .68 | .21 | 2.14 |

Note. *Coefficient significant at $p < 0.05$; **Coefficient significant at $p < 0.01$; ***Coefficient significant at $p < 0.001$.

Discussion and Conclusions

This study examined recreation participation patterns among Latinos residing in two Chicago neighborhoods. Although respondents were Latinos residing in the same city, significant variations were observed in their use of natural environments for recreation, thus providing further evidence of the need to account for heterogeneity *within* ethnic minority groups (Floyd & Gramann, 1993; Floyd, Shinew, & McGuire, 1994; Gómez & Malega, 2007).

The study also explored the use of parks and other natural areas for recreation in selected recreation activities as well as different categories of activities. We were able to isolate the effects of acculturation, access to natural environments, and certain demographic variables as possible determinants of Latino's outdoor recreation participation. The findings confirmed Alba and Nee's (2003) assertion that acculturation still holds important explanatory power when it comes to modeling cultural change among minorities. The results also confirmed assertions of Gómez (2002) and Gómez and Malega (2007) that acculturation is a viable framework in modeling recreation patterns among minority populations. In our case, it was useful in explaining Latinos' participation in a range of recreation activities and, moreover, was observable among both immigrants and U.S.-born minority members. The Two Culture Matrix Model (Keefe & Padilla, 1987) was useful in modeling behavior changes related to acculturation, as on many occasions acculturated Latinos have displayed different recreation participation patterns than the bicultural Latinos.

Our results showed that acculturation is an important predictor of participation in passive, physical, and appreciative activities in natural settings. Specifically, less acculturated individuals had higher participation rates in appreciative activities. Typically, people born in Latin America display a closer relationship to nature than mainstream U.S. citizens and perceive themselves as part of nature rather than owners of it (Lynch, 1993; Noe & Snow, 1990; Schultz, Unipan, & Gamba, 2000). As the existing literature shows, these values

change with Latino's increasing acculturation (Schultz et al.). Our findings further showed that unacculturated Latinos participated in passive activities such as talking/socializing more so than did bicultural or acculturated Latinos. Often less acculturated immigrant Latinos have physically demanding jobs that can make strenuous leisure activities less desirable (Cronan et al., 2008; Ramirez & de la Cruz, 2002). Additionally, passive pastimes such as sitting/resting/relaxing, barbecuing, or talking with the family are often particularly popular among this population (Chavez, 1991; Cronan et al.; Gobster, 2002; Hutchison, 1987; Stodolaska, Shinew, & Li, 2010). Interestingly, however, unacculturated Latinos also reported participating in physically active recreation activities more so than did the bicultural Latinos. This may have been due to the effects of walking that was included as one of the physically active pastimes. Latinos who immigrate to the United States typically report high rates of walking (both for leisure and as a form of transportation); this rate sometimes decreases with time spent in the United States (e.g., Berrigan, Dodd, Troiano, Reeve, & Ballard-Barbash, 2006). Such findings on acculturation may have an impact on intervention studies targeting Latinos in order to increase their physical activity levels. It seems that the passive and appreciative activities may not carry as many physical benefits, but they may provide positive social benefits to immigrants migrating to this country (Stodolska et al., 2011). Future studies targeting physical activity may need to focus on the social benefits of recreation activities (e.g., activities may serve as a mechanism to bond with family members or expend energy; see Stodolska et al., 2011) in order to increase Latino participation. Additionally, unacculturated individuals did engage in some active recreation activities. Such engagement should be acknowledged and encouraged among Latinos to maintain activity levels as acculturation increases.

Our findings showed that access to public natural environments also affected Latinos' participation in many recreation activities. Latinos from East Side, a community that has access to several large parks, were more likely to be involved in passive, physical, consumptive, appreciative, and mechanized activities than the residents of Little Village, a community that has limited access to outdoor greenery. Further, individuals with access to natural environments were more likely to participate in talking/socializing, swimming, and dog walking. This finding supports recent research regarding physical activity levels and the built environment. Such research documents that proximity to parks generally leads to an increase in recreation participation among various study populations (Casper & Harrolle, 2013; Cohen et al., 2007; Kaczynski & Henderson, 2007). This study highlights the importance of research regarding lack of access to natural areas as many racially marginalized communities across the country continue to have limited access to such resources, which may have negative impacts on health and wellbeing (García, 2013; Taylor et al., 2007).

Our findings also showed that several key demographic variables also affected recreation participation among Latinos. For instance, gender was a significant predictor of participation in physical, consumptive, appreciative, and mechanized activities, with women being less likely to participate in these different categories of recreation activities. This study supports research documenting the various constraints facing women, which limit their recreation participation (Bialeschki, 2005; Shaw & Henderson, 2005). Further, age impacted participation in consumptive, appreciative, and mechanized activities, with older individuals participating less in these different categories of recreation activities. However, older adults were also more likely to engage in lake swimming. This supports some trends but not others in regards to how age may affect recreation participation (Crespo, 2000; Iso-Ahola, Jackson, & Dunn, 1994; McGuire & Norman, 2005). In this case, the results suggested that some recreation activities were dropped while other activities demonstrated a continuity over the lifespan (Freysinger, 1999). It may have been possible that compared

to younger participants, the older adults in this study were introduced to lake swimming in their earlier years which has continued into their later years. In addition, more educated participants reported higher participation rates in physical and appreciative activities as well as walking. It is possible that more educated individuals may have had higher awareness of the physical benefits of participating in physical activities. Finally, participants with higher levels of income were less likely to participate in sitting/resting/relaxing. It may have been that these participants were also more aware of the benefits of being physically active and could afford the cost of participation in other recreation activities (Casper & Harrolle, 2013; Schneider, Shinew, & Fernandez, 2014).

The argument of preclusion or constraint has usually been couched in terms of the limiting effects of minorities' socio-economic status, access to transportation, or discrimination (Schneider et al., 2014; Sharaievska, Stodolska, Shinew, & Kim, 2010; Washburne, 1978; West, 1989) on their recreation behavior participation. The findings of this study showed, however, that there was a range of pastimes which did not depend on people's cultural orientation, income, and education, but varied depending on their place of residence, or access to natural areas. In other words, participation rates in these activities might have been higher if minorities had access to quality natural environments within a convenient distance from their places of residence. The issue of access is often explained as people's free choice (e.g., they decided to live in the neighborhood). One may argue, however, that many people are prevented from having access to quality natural environments by the circumstances beyond their choice (for a cogent discussion of environmental justice see Floyd & Johnson, 2002). Such minority members may not only be constrained from visiting natural environments, but their children who grow up in communities with little access to greenery may not develop preferences for certain recreation activities, thus affecting their future recreation choices.

Based on the findings of this study that highlight the important role access to natural environments plays in shaping Latinos' recreation patterns, we argue that it is necessary to extend efforts to increase availability of natural areas in minority communities. This can be accomplished in a variety of ways, only one of which is providing additional city parks. Since finding space for new parks in densely populated minority neighborhoods is difficult, urban planners and local residents may focus instead on reclaiming postindustrial sites and empty city lots, and converting them into open green space, soccer fields, or community gardens. Such actions were already observed in both neighborhoods investigated in this research project and, moreover, were documented in studies on other minority communities (Shinew, Glover, & Parry, 2004). Providing trails and greenways that run through neighborhoods and connect parks and recreation areas could also foster a variety of recreation behaviors among Latino residents, including physical activity (Flores, 2008).

Study Limitations

Although this study provided some interesting insights, limitations need to be acknowledged. First, participants' recall was used to measure recreation participation and, as some previous studies have shown, people often significantly distort their true participation rates (Chase & Godbey, 1983; Freeman, Romney, & Freeman, 1987). Second, type of neighborhood was used as a proxy for access to natural environments. Other proxies that have been used in the past included travel time to the park (Gobster, 2002; Kaczynski & Henderson, 2007; Tinsley et al., 2002) or perceived (West, 1989) and actual geographic distance (Kaczynski, Potwarka, Smale, & Havitz, 2009). Future research should employ more direct measures of access, possibly with the use of geographic information systems (GIS;

Kaczynski et al., 2009). This study also did not account for other factors related to accessibility, including the ease of navigating within a park (Bedimo-Rung et al., 2005) and attractiveness of park features (Giles-Corti et al., 2005). Using neighborhood as a proxy for access to natural environments might have potentially captured other characteristics of the location (e.g., “social milieu,” proportion of Latinos in the area), as argued by Gómez and Malega (2007). Third, other items related to acculturation such as time spent in the United States were not included in the models. Fourth, this study did not control for the ethnic origin of Latinos. It is possible that some variation might have been introduced by the fact that East Side included a higher proportion of people of Puerto Rican descent than Little Village. However, people of Puerto Rican descent accounted for only 5.3% of the total sample, which was too small to make meaningful comparisons. Cultural differences that may affect participation in recreation activities should not be discounted.

Although the study involved visiting homes on several occasions and utilized Latino interviewers and translated material to increase response rates, low response rates for both subgroups, especially Little Village residents, was a source of concern in this study. The subsequent impact of nonresponse bias in the data was not calculated, making it unclear whether differences existed between respondents and nonrespondents. Future research may need to test for nonresponse bias as well as follow Marin and Marin’s (1991) suggestions, including “becoming familiar with the community” (p. 45), “demonstrate[ing] sufficient legitimacy to allay fears that the information being collected will be misused” (p. 46), as well as increasing community support to increase response rates among Latino participants. Further, given the focus of the study, nonpark users were not included in the analyses. It is unclear whether acculturation levels and access to natural environments impacted their lack of recreation participation or if other factors affected their lack of recreation participation, such as noninterest. This study focused only on respondents who identified as park users. However, even if respondents identified as park users, the data demonstrated that some of them did not participate in many of the recreation activities presented in the interview protocol.

Considering that the Latino population in the United States is constantly augmented by successive waves of newcomers, it is likely that differences in recreation participation between Anglos and Latinos will persist in the future. Alba and Nee’s (2003) New Assimilation Theory was a useful framework for this study and may be applied to analyze cultural changes and adaptation patterns among minority populations in future research. As Alba and Nee noted, however, the concepts of acculturation and assimilation need to be used with caution and with full understanding of the limitations of the original framework. Since newcomers are constantly re-defining the concept of the American mainstream and providing, as they have been for centuries, significant contributions to America’s cultural heritage, future studies could take advantage of the propositions of the New Assimilation Theory and explore the bi-directionality of the process of cultural change. In particular, it would be useful to examine the effect minority groups have on the mainstream culture and how they are manifested in and through leisure behavior. Regardless of the approach, however, we argue that it is necessary in future research to go beyond inter-ethnic and inter-racial comparisons and fully explore important *intra-group* variations in minorities’ leisure preferences, participation patterns, and factors that condition their leisure behavior.

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