Physical activity among Hispanic/Latino and non-Hispanic/Latino White visitors on urban-proximate public lands

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Abstract

Health benefits of physical activity are well recognized and documented, yet obesity rates remain high in the U.S., particularly among Hispanics/Latinos. As our population becomes more urban and ethnically diverse, a greater understanding of specific populations may help agencies better address issues related to obesity and sedentary lifestyles. This study examined use of urban-proximate outdoor recreation sites for physical activity as well as differences in use, experience use history and Body Mass Index between Hispanics/Latinos of all races, and non-Hispanic/Latino Whites. Ultimately, this research seeks to inform efforts to increase physical activity levels on public lands. Data were collected through onsite interviews in urban-proximate parks in California, Illinois and Minnesota used by a variety of racial and ethnic groups. Findings indicate that parks and recreation areas remain important places for physical activity among both Hispanics/Latinos and non-Hispanic/Latino Whites. Differences between the two groups suggest both management opportunities and challenges.

Key words: leisure, physical activity, health, ethnicity

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Introduction

Human health is a vital concern throughout the world, including the United States. Overweight and obesity are associated with an increased health risk for numerous chronic diseases (National Institutes of Health 1998). Therefore, the rising obesity level in the U.S. is gaining increasing attention as 66.3 percent of U.S. citizens are either overweight or obese (Ogden and others 2006). Physical inactivity, as a contributing factor to obesity, is a serious problem. In 2003 only 45.9 percent of the U.S. population met the recommended levels of physical activity (Centers for Disease Control [CDC] 2005a). Physical inactivity is most prevalent among ethnic and racial minority groups (Wilcox and others 2000), particularly among Hispanics/Latinos (Marquez and others 2004). In 2005, 32.6 percent of Hispanic adults reported no leisure time physical activity (LTPA), compared to 21.4 percent of non-Hispanic Whites (as cited in Ainsworth and others 2007). Further, more than 75 percent of Mexican Americans are overweight or obese (Ogden and others 2006). As such, obesity rates are high in the U.S. and subsequently contribute to health issues.

Hispanic populations comprise 14.8 percent of the U.S. population and are the fastest growing group, accounting for almost half of the national population growth between 2005 and 2006 (U.S. Census Bureau 2007). The term Hispanic refers to people with ethnic backgrounds from Spanish-speaking countries: they can belong to any race, and most in the U.S. are White. Although the U.S. Census use the terms Hispanic and Latino interchangeably, the term Latino holds a slightly different meaning referring to Latin America nationality. As the U.S. population becomes more urban and ethnically diverse, a greater understanding of specific populations’ physical activity may facilitate agencies’ ability to address obesity and sedentary lifestyles. In June 2002, President Bush issued Executive Order (E.O.) 13266 for the purpose of improving the health of all
Americans with physical activity as one of the four health-protection pillars. The Department of Health and Human Services was designated as the lead agency and a Federal Interagency MOU and Work Group, representing the Departments of Health and Human Services, Agriculture, the Interior, and the U.S. Army Corps of Engineers, is in process. This Executive Order has accentuated agency interest in health benefits, including those related to recreation.

Given the percent of the U.S. population that occupies urban domains and the fact that this population is diversifying, this paper focuses on the use of urban-proximate outdoor recreation sites among a variety of race and ethnicity groups. Specifically, differences in park use history, physical activity and Body Mass Index (BMI) between Hispanics/Latinos of all races and non-Hispanic/Latino Whites were examined.

**Background**

In 2000, 80.3 percent of U.S. citizens lived in urban areas, with one third of the total population living in metropolitan areas of five million or greater (US Census Bureau 2001). Urban-proximate recreation areas are those located close to urban areas and may attract different visitors than urban-distant or remote areas (Ewert 1998). Outdoor recreation in urban proximate areas is of increasing importance as residents seek benefits from natural environments and respite from the urban environs. Positive experiences often result from urban-outdoor recreation (Moore and others 1998) and these experiences include health benefits.

Recreation and park visits can contribute to physical activity and improved health (Ho and others 2003). However, physical activity participation differs markedly among racial
and ethnic groups (Ho and others 2003; Henderson and Ainsworth 2001). Hispanic and African-American groups engage in outdoor recreation less frequently than other groups (Floyd and others 1993; Ho and others 2003). Studies examining recreation participation among Mexican Americans typically focus on between-group differences, primarily comparing Mexican Americans to White Americans. Many of these studies have found that Mexican Americans have significantly lower levels of involvement in outdoor recreation and active sports (Cunningham and others 1994).

One variable that may differentiate realized health benefits and physical activity is visitor experience with a site or, experience use history (EUH). Typically up to three elements measure EUH: total visits, totals years of use, and frequency of use of a site (Hammit and McDonald 1983; Schreyer and others 1984). Hammitt and others (2004) suggest EUH is “linked to a number of recreation user perception, behavior, and management preferences” (p. 358). For example, a number of studies explore the relationship between EUH and crowding (Graefe and Moore 1992; Budruk and others 2002). Similarly, EUH may be related to measures of physical health, such as body mass index, as well as physical activity engagement.

**Methods**

In this study, onsite interviews were administered to park users across three U.S. urban proximate areas to ascertain experience use history, physical activity and body mass index, among other variables.

**Study sites**

The study sites were: Hawkins Park in Los Angeles CA; Humboldt Park in Chicago, IL; and Powderhorn Park in Minneapolis, MN. These sites were selected because they
were comparable in terms of the amenities offered and urban density. Each park is accessible by bus, bicycle, foot and car, and is located in racially and ethnically mixed neighborhoods.

**Sampling**

Bilingual (Spanish and English) interviewers contacted park users during the summer of 2006. Sampling was conducted across a variety of weekends and weekdays as well as throughout daylight hours. All available visitors were contacted during the data collection times. Field personnel tracked response rates and logged information about “unapproachable” visitors (e.g., number in group, reason could not approach, activity, etc.). The response rates ranged between 72.9 percent and 87.4 percent across the three sites.

**Instrument**

A two-page instrument assessed experience use history (EUH), physical activity (usual location, intensity, frequency and duration), Body Mass Index (BMI) and demographics. Experience use history was measured by total times visited, times visited in the past 12 months, and years coming to the area. Physical activity was measured in terms of days per week and amount of time per day spent in moderate and/or vigorous activity (with a minimum of 10 minutes) modeled after select physical activity questions from the Behavioral Risk Factor Surveillance System (CDC 2005b) and International Physical Activity Questionnaire (IPAQ, 2002). Moderate activity was defined as that which causes small increases in breathing or heart rate while vigorous activity was defined as that which causes large increases in breathing or heart rate. The location of usual physical activity was obtained by asking respondents where they usually do their physical activity from a list of possible options. Body mass index was calculated by the height and
weight information respondents reported. For comparison purposes, a person with a BMI between 25-30 is considered to be overweight and person with a BMI more than 30 is considered to be obese (CDC 2006). Finally, respondents were asked several demographic questions, including race and ethnicity.

**Analysis**

Questionnaire data were entered and analyzed using SPSS 13. Descriptive analysis provided means, standard deviations, and frequencies to describe the sample and variables of interest. EUH items were winsorized to deal with outliers. T-tests were used to compare EUH, physical activity and BMI between Hispanic/Latino and non-Hispanic/Latino White visitors and correlation analysis assessed the relationship between EUH and physical activity as well as EUH and BMI. Although Hispanic/Latinos can be of any race including White, for the purposes of this paper, Hispanic/Latinos of any race will be referred to as Hispanic/Latino and non-Hispanic/Latino Whites will be referred to as White.

**Results**

Respondents were rather evenly split between males and females, U.S. and non-U.S. born, and Hispanic/Latino and non-Hispanic/Latino. Specifically, 53 percent of the sample was female, 56 percent born in the U.S. and 57.9 percent Hispanic/Latino (figure 1). The average age of the respondents was 37.9 years. The White respondents had a BMI of 24.8 (just under overweight), and the Hispanic/Latinos had a BMI of 26.8 (considered overweight).

The majority of both Hispanic/Latinos and Whites indicated the site where they were contacted as a usual location of their physical activity (57 percent and 68 percent for
Hispanic/Latinos and Whites respectively; figure 2). For Hispanic/Latino visitors, home (39 percent), different park/recreation area (15 percent) and work (8 percent) followed as the next usual locations for physical activity while for Whites the order differed slightly with home (33 percent) followed by fitness center (32 percent) and different parks/recreation area (23 percent).

Significant differences were found between Hispanic/Latinos and Whites on two of the three EUH measures, one of four physical activity measures, and BMI. Specifically, Hispanic/Latinos visited less frequently in terms of total visits and visits in the past twelve months, engaged in moderate physical activity fewer days per week and had higher BMIs than Whites (table 1).

Weak correlations existed between EUH measures and select physical activity measures (table 2). There was a weak, positive relationship between times visiting in the past 12 months and years and days per week of moderate physical activity for both groups. However, EUH was positively correlated to moderate physical activity duration for Hispanics only. For Hispanic/Latinos, there was a weak, negative relationship between total times visiting vigorous physical activity duration and frequency. Similarly, one of the EUH measures was weakly related to BMI: years for Hispanic/Latino and total visits for Whites.

**Discussion & Implications**

Onsite surveys with urban proximate visitors found differences in experience use history, physical activity levels and body mass index between Latino/Hispanic and White visitors. Also, weak correlations existed between EUH and BMI. These results suggest both opportunities and challenges for recreation managers.
The majority of respondents indicated their physical activity took place at either the site where they were contacted or another park/recreation area; thus, it appears the opportunities at these public lands are, in fact, contributing to physical activity. However, other studies contradict this finding (Huston and others 2003) and report that neighborhood, home, and fitness centers are used more frequently than parks for physical activity. Therefore future research is needed to understand these differences. Nonetheless, to retain and encourage more physical activity and subsequent health benefits like reduced BMI, managers have a number of options to consider: 1) identify and inventory their physical activity offerings and programs, 2) promote physical activity offerings and programs in dominant and locally used languages as well as diverse publications, 3) work with non-dominant cultures to ensure the physical activity opportunities are offered in situations and at times that are culturally appropriate, 4) consider the constraints to physical activity for all visitors and non-visitors, and 5) explore partnerships with local park and recreation providers as well as health organizations (clubs, hospitals, etc.). Given the positive relationship between EUH measures and moderate level physical activity, promoting or continuing to promote park and recreation lands as important locations for physical activity is of interest and meets the intent of the 2002 E.O. relating to the health of U.S. citizens. Understanding if and how these participation patterns differ across recreational opportunities is of interest as these findings are limited to urban-proximate parks.

With regards to the diverse population, managers need to recognize Hispanic/Latino park visitors as frequent park users as well as a population with opportunities to improve physical activity levels and BMI. Given a healthy BMI range is 18.5-24.9 (CDC 2006), the average Hispanic/Latino park user is overweight. Partnering with local health care
providers and/or other physical activity facilities can open new doors for agency partnerships. Further, although Hispanic/Latino visitors were frequent visitors to these sites, their visitation was still significantly lower than the White visitors. Certainly this difference raises questions about constraints to participation and abilities to negotiate these constraints to be addressed in future research.

Despite park use for physical activity, physical activity and BMI were not consistently correlated with park use. One reason for this finding is that our park use question focused on general use rather than that of park use for physical activity: the lack of specificity may contribute to the inconsistent relationship. Another reason for this inconsistent relationship is that constraints to participation may exist and therefore, identifying and understanding intervening factors to physical activity and park use is recommended.

Federal agencies are mandated to promote physical activity on public lands. This research represents a first step to examine such physical activity and compare use between racial/ethnic groups. Results indicate visitors to these public lands have opportunity to increase their physical activity, decrease their BMI and realize greater health benefits. Subsequently, as appropriate, recreation managers can engage a variety of visitors to improve the health of Americans as stipulated in Bush's 2002 Executive Order.
Literature Cited


Table 1--Experience use history, physical activity and body mass index descriptions of Hispanic/Latino and non-Hispanic Latino visitors

<table>
<thead>
<tr>
<th>Measure</th>
<th>Hispanic/Latino (M)</th>
<th>White (M)</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Experience Use History</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total times visited</td>
<td>203.7</td>
<td>348.2</td>
<td>3.49***</td>
</tr>
<tr>
<td>Times visited in the past 12 months</td>
<td>41.8</td>
<td>83.5</td>
<td>5.86***</td>
</tr>
<tr>
<td>Years been coming to this area</td>
<td>9.1</td>
<td>9.0</td>
<td>-0.14</td>
</tr>
<tr>
<td><strong>Physical Activity Level</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Days per week</td>
<td>4.3</td>
<td>5.5</td>
<td>5.31***</td>
</tr>
<tr>
<td>Time per day</td>
<td>1:43</td>
<td>1:23</td>
<td>-1.64</td>
</tr>
<tr>
<td>Vigorous</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Days per week</td>
<td>2.4</td>
<td>2.4</td>
<td>.22</td>
</tr>
<tr>
<td>Time per day</td>
<td>0:39</td>
<td>0:35</td>
<td>-0.91</td>
</tr>
<tr>
<td><strong>Body Mass Index</strong></td>
<td>26.8</td>
<td>24.8</td>
<td>-3.67***</td>
</tr>
</tbody>
</table>

*Indicates significance where p<.1; **p<.05; ***p<.01
Table 2--Correlations among experience use history (EUH), physical activity and body mass index (BMI) descriptions of Hispanic/Latino and non-Hispanic Latino visitors

<table>
<thead>
<tr>
<th>Physical Activity Level</th>
<th>Hispanic/Latino EUH</th>
<th>White EUH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>12 months</td>
</tr>
<tr>
<td>Moderate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Days/wk</td>
<td>0.05</td>
<td>0.12*</td>
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<tr>
<td>Time/day</td>
<td>0.17**</td>
<td>0.19***</td>
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<tr>
<td>Vigorous</td>
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<td></td>
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<tr>
<td>Days/wk</td>
<td>-0.16**</td>
<td>0.03</td>
</tr>
<tr>
<td>Time/day</td>
<td>-0.15**</td>
<td>-0.01</td>
</tr>
<tr>
<td>Body Mass Index</td>
<td>0.01</td>
<td>0.06</td>
</tr>
</tbody>
</table>

*Indicates significance where p<.1; **p<.05; ***p<.01
Figure 1--Race/ethnicity distribution of visitors by percentage

- Hispanic/Latino, any race, 57.9%
- White, 28.1%
- Black/African American, 8.8%
- Other, 5.1%
Figure 2--Location of usual physical activity reported by visitors

[Bar chart showing the percentage of respondents reporting physical activity in different locations, categorized by Hispanic/Latino and White respondents.]

Physical Activity Location:
- This area
- Different park
- Home
- Fitness center
- Neighborhood
- Work
- Other

Percentage Reported by Respondents:

- Hispanic/Latino
- White