Leisure-Time Physical Activity Disparities Among Hispanic Subgroups in the United States

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Studies of leisure-time physical activity disparities for Hispanic individuals have not adjusted for sociodemographic confounds or accounted for variation by country of origin. We used the National Health Interview Survey to compare leisure-time physical activity among Hispanic and non-Hispanic White persons. All Hispanic subgroups were less active than were non-Hispanic White people, yet significant heterogeneity existed among Hispanic persons. Sociodemographic factors partly accounted for disparities among men; disparities among women persisted despite multivariate adjustments. Interventions must attend to these underserved yet varied subcommunities. (*Am J Public Health.* 2008;98:1460–1464. doi:10.2105/AJPH.2006.096982)

The Centers for Disease Control and Prevention (CDC) and the American College of Sports Medicine recommend at least 30 minutes of moderate-intensity physical activity most days of the week.[1] National surveillance indicates that Hispanic individuals are less physically active than are non-Hispanic White individuals[2–5]; however, studies do not account for socioeconomic factors that may confound the association.[6–9] Additionally, studies have not examined differences among Hispanic persons by country of origin.

Hispanic individuals in the United States come from 19 countries of origin, each with distinctive histories and cultural influences.[10–12] Health and health behaviors vary across these groups.[13] More-acculturated Hispanic persons are more physically active than are their less-acculturated counterparts.[14,15]

We used nationally representative data to compare the prevalence of leisure-time physical activity among Hispanic and non-Hispanic White individuals in the United States. We conducted multivariate analyses that included sociodemographic covariates to determine whether disparities in leisure-time physical activity persisted after we controlled for confounders.

METHODS

We combined data collected from 2000 through 2003 of the National Health Interview Survey to examine leisure-time physical activity among adults (18 years and older).[16]

Measures

Race/ethnicity. Participants who self-reported as Hispanic also identified their Hispanic origin or ancestry (Table 1). We limited analyses to Hispanic individuals who reported a single country of origin from Latin American regions. Excluded individuals represented 4.5% of the Hispanic sample.

Leisure-time physical activity. Participants were asked about frequency and duration of vigorous and of light-to-moderate activities during their leisure time. The leisure-time physical activity questions within the National Health Interview Survey have been rigorously evaluated[17] and are used for national leisure-time physical activity surveillance and monitoring progress toward *Healthy People 2010* objectives.[18]

We defined a 3-level physical activity variable: (1) no leisure-time physical activity, (2) some leisure-time physical activity but below recommended levels, and (3) leisure-time physical activity at recommended levels according to the CDC, American College of Sports Medicine,[1] and *Healthy People 2010* objectives.[18]

Sociodemographics. Table 1 includes a list of sociodemographic variables. To account for potential nonlinear trends in age, we entered dummy-coded variables for age groupings. Proxy measures for socioeconomic status included education, employment status, and health insurance.

Health indicators. Self-rated health was defined as fair or poor versus good or better. Physical limitations were defined as any difficulties with performing unaided activities. Psychological distress was defined as negative mood that interfered with functioning "some" or "a lot" during the past 30 days.

Behavioral risk factors. Behavioral risk factors included smoking status and weekly heavy drinking episodes (≥5 drinks/episode).

Acculturation. We used 3 proxy measures for acculturation: (1) interviewed in Spanish, (2) birthplace, and (3) resided in the United States less than 10 years.

Analysis

We adjusted analyses for the complex sampling design with Stata statistical software version 9.2 (Stata Corp, College Station, Tex). The analytic plan followed 2 steps: (1) we compared leisure-time physical activity prevalence and socioeconomic and demographic characteristics between non-Hispanic White participants and each of the Hispanic subgroups, and (2) we used ordinal logistic regression to create multivariate-adjusted models that examined differences in the 3-level leisure-time physical activity measure between non-Hispanic White individuals and each of the Hispanic subgroups.[19] Parameter estimates from these models indicated odds of being in a more active level of leisure-time physical activity. Post hoc analysis of differences between odds ratios for each Hispanic subgroup was conducted with the adjusted Wald statistic using Stata.[19] We adjusted the α levels using the Bonferroni adjustment test.

RESULTS

Sociodemographic and Other Variable Differences

Table 1 presents leisure-time physical activity levels and model covariates for the Hispanic subgroups. The table highlights the heterogeneity in sociodemographic characteristics. Although all Hispanic groups were less active than were non-Hispanic White individuals, much variability was seen across the subgroups. Cuban and Dominican participants were the least active, whereas Mexican American participants were the most active. Women were less active than were men.

Ordinal Logistic Regression Modeling

Table 2 presents unadjusted and multivariate-adjusted odds ratios comparing physical activity levels among Hispanic subgroups and

TABLE 1—Adult Leisure-Time Physical Activity Levels and Percentages of Model Covariates Among Hispanics 18 Years and Older, by Subgroup: National Health Interview Survey, 2000–2003

	Non-Hispanic White	Puerto Rican	Mexican	Mexican American	Cuban	Dominican	Central or South American
Total, no.	83 813	2191	8027	5455	1253	641	3129
No leisure-time physical activity, % (95% CI)	35.8 (35.0, 36.5)	52.4 (49.6, 55.2)	58.2 (56.7, 59.7)	47.1 (45.3, 49.0)	66.3 (62.2, 70.2)	64.1 (59.9, 68.0)	49.3 (47.1, 51.6)
Men	33.7 (32.9, 34.6)	47.5 (43.3, 51.8)	56.9 (55.0, 58.7)	43.8 (41.2, 46.4)	60.9 (54.6, 66.8)	61.1 (53.2, 68.4)	45.2 (41.9, 48.6)
Women	37.7 (36.8, 38.5)	56.7 (52.9, 60.3)	59.7 (57.6, 61.8)	50.2 (47.8, 52.7)	71.2 (65.8, 76.0)	66.2 (59.8, 72.1)	53.2 (50.4, 56.0)
Meets recommendation,[a] % (95% CI)	38.2 (37.6, 38.8)	28.4 (26.2, 30.7)	22.7 (21.5, 23.8)	31.9 (30.5, 33.4)	19.8 (17.2, 22.6)	19.9 (15.9, 24.7)	28.2 (26.0, 30.4)
Men	41.7 (41.0, 42.5)	34.4 (31.0, 38.0)	24.9 (23.3, 26.5)	35.2 (32.8, 37.7)	24.9 (20.4, 30.1)	25.1 (18.6, 33.0)	31.6 (28.2, 35.2)
Women	34.9 (34.3, 35.6)	23.2 (20.7, 25.8)	20.1 (18.5, 21.9)	28.9 (27.0, 30.9)	15.1 (11.8, 19.1)	16.2 (11.7, 22.0)	24.9 (22.6, 27.4)
Age, mean, y (95% CI)	46.7 (46.5, 46.9)	41.5 (40.5, 42.5)	37.0 (36.5, 37.5)	39.3 (38.7, 40.0)	50.3 (48.3, 52.2)	40.9 (39.7, 42.2)	38.7 (38.1, 39.3)
Women, % (95% CI)	51.9 (51.5, 52.4)	53.5 (50.8, 56.2)	46.7 (45.4, 48.1)	51.9 (50.0, 53.8)	52.3 (49.3, 55.3)	58.3 (53.6, 62.8)	51.3 (49.2, 53.4)
Education, % (95% CI)							
Less than high school	12.5 (12.1, 12.9)	32.3 (29.4, 35.2)	64.7 (63.1, 66.3)	31.4 (29.7, 33.3)	33.2 (29.1, 37.5)	37.8 (34.8, 40.8)	34.1 (31.6, 36.7)
High school diploma	31.0 (30.5, 31.6)	30.7 (28.2, 33.3)	18.6 (17.5, 19.8)	31.3 (29.9, 32.8)	24.0 (21.3, 27.1)	25.8 (22.1, 29.9)	23.4 (21.4, 25.5)
Some college	30.0 (29.6, 30.4)	26.1 (23.7, 28.7)	12.4 (11.5, 13.4)	28.4 (26.6, 30.4)	23.6 (21.5, 25.9)	23.0 (18.7, 27.9)	24.2 (22.5, 26.1)
College or greater	26.5 (25.9, 27.2)	10.9 (9.3, 12.8)	4.3 (3.7, 4.9)	8.8 (7.7, 10.1)	19.1 (15.8, 23.0)	13.5 (10.2, 17.6)	18.3 (16.2, 20.5)
Marital status, % (95% CI)							
Never married	16.6 (16.0, 17.1)	24.9 (22.3, 27.7)	19.8 (18.6, 21.2)	24.5 (22.9, 26.1)	15.4 (12.7, 18.4)	21.1 (17.9, 24.6)	21.6 (19.9, 23.4)
Separated	17.7 (17.4, 18.0)	20.3 (18.4, 22.2)	13.8 (12.9, 14.6)	16.7 (15.6, 17.9)	22.4 (19.5, 25.6)	27.4 (24.4, 30.7)	16.4 (15.1, 17.8)
Married or living together	65.7 (65.2, 66.3)	54.9 (52.1, 57.6)	66.4 (65.0, 67.8)	58.8 (57.1, 60.5)	62.2 (58.5, 65.9)	51.5 (46.8, 56.3)	62.0 (60.0, 64.0)
Family composition, % (95% CI)							
No children	65.5 (65.0, 65.9)	51.9 (49.2, 54.7)	32.2 (30.9, 33.6)	44.2 (42.6, 45.9)	62.5 (58.2, 66.6)	39.1 (34.4, 43.9)	44.7 (42.5, 47.0)
1 child	15.0 (14.7, 15.4)	18.6 (16.9, 20.4)	20.6 (19.6, 21.7)	21.3 (19.9, 22.7)	19.3 (15.9, 23.3)	21.5 (17.5, 26.1)	22.6 (21.0, 24.3)
≥2 children	19.5 (19.2, 19.9)	29.5 (27.1, 31.9)	47.2 (45.8, 48.6)	34.5 (32.9, 36.2)	18.2 (15.9, 20.6)	39.5 (34.4, 44.9)	32.7 (30.4, 34.9)
Elder in home	22.7 (22.2, 23.2)	16.7 (14.5, 19.1)	9.6 (8.7, 10.6)	15.8 (14.6, 17.1)	40.0 (34.8, 45.3)	15.4 (12.2, 19.4)	11.7 (10.1, 13.4)
Employed last week, % (95% CI)	65.2 (64.7, 65.7)	59.4 (56.2, 62.5)	67.1 (65.7, 68.4)	66.9 (65.2, 68.6)	56.7 (51.8, 61.4)	61.8 (57.5, 65.9)	73.0 (71.0, 74.8)
Self-reported health,[b] % (95% CI)							
Poor or fair	11.1 (10.7, 11.4)	20.4 (18.3, 22.7)	12.1 (11.3, 13.0)	14.1 (13.1, 15.2)	18.9 (16.5, 21.4)	18.1 (15.2, 21.3)	9.5 (8.4, 10.8)
Functional limitations	33.6 (33.0, 34.2)	30.1 (27.3, 33.0)	16.5 (15.4, 17.7)	24.4 (22.9, 26.0)	24.1 (20.5, 28.2)	18.3 (14.0, 23.4)	16.5 (15.0, 18.1)
Psychological distress interfered	9.7 (9.4, 10.0)	15.6 (13.9, 17.5)	9.2 (8.6, 10.0)	10.3 (9.4, 11.4)	8.9 (6.6, 11.9)	12.9 (9.8, 16.8)	8.8 (7.8, 10.0)
Health insurance, % (95% CI)							
Medicaid	3.9 (3.7, 4.1)	19.6 (17.1, 22.2)	8.3 (7.6, 9.1)	10.0 (9.1, 11.1)	15.2 (12.0, 19.7)	23.1 (19.5, 27.2)	6.9 (5.9, 8.1)
No health insurance	11.2 (10.9, 11.5)	18.8 (16.9, 20.8)	52.5 (50.7, 54.3)	27.5 (26.0, 29.0)	20.5 (18.3, 22.9)	33.6 (29.9, 37.5)	42.0 (39.5, 44.6)
Behavioral risk factors, % (95% CI)							
Former smoker	25.1 (24.7, 25.5)	15.4 (13.8, 17.2)	12.4 (11.5, 13.3)	14.8 (13.6, 16.0)	16.0 (13.1, 19.2)	9.4 (7.4, 11.9)	14.1 (12.5, 15.8)
Current smoker	23.7 (23.2, 24.1)	23.9 (21.8, 26.0)	15.4 (14.5, 16.4)	18.1 (16.9, 19.3)	20.3 (17.2, 23.9)	14.3 (11.3, 17.8)	12.9 (11.5, 14.4)
Weekly heavy drinking[c]	5.1 (4.9, 5.4)	5.6 (4.5, 6.9)	6.2 (5.6, 7.0)	7.5 (6.8, 8.2)	2.7 (1.6, 4.5)	3.0 (1.8, 5.1)	3.1 (2.4, 3.9)
Census region, % (95% CI)							
Northeast	20.4 (19.7, 21.1)	57.3 (52.8, 61.6)	2.8 (2.0, 4.0)	0.4 (0.3, 0.8)	14.1 (10.7, 18.4)	81.4 (77.5, 84.7)	27.5 (24.0, 31.3)
Midwest	28.6 (27.8, 29.5)	9.6 (7.3, 12.4)	11.2 (9.2, 13.6)	7.2 (6.1, 8.4)	3.1 (2.1, 4.5)	2.5 (1.4, 4.4)	5.0 (3.9, 6.4)
South	34.4 (33.5, 35.3)	24.8 (20.9, 29.2)	29.0 (26.3, 31.8)	41.2 (36.6, 45.9)	76.4 (71.9, 80.5)	14.3 (11.5, 17.6)	38.8 (35.4, 42.5)
West	16.5 (16.0, 17.3)	8.4 (6.5, 10.8)	57.0 (53.9, 60.0)	51.3 (46.9, 55.6)	6.4 (5.0, 8.0)	1.9 (0.8, 4.4)	28.7 (25.5, 32.1)
Acculturation proxies, % (95% CI)							
Spoke Spanish and English during interview	0.0	9.9 (8.3, 11.8)	20.2 (18.6, 21.9)	10.0 (8.8, 11.5)	8.3 (6.3, 10.7)	16.4 (13.5, 19.9)	18.0 (16.3, 19.8)
Spoke Spanish only during interview	0.0	9.3 (7.6, 11.2)	43.8 (41.7, 45.9)	6.8 (5.8, 8.0)	57.7 (53.2, 62.1)	34.6 (30.7, 38.7)	28.1 (26.1, 30.1)
Born outside continental United States	4.7 (4.4, 4.9)	50.8 (47.6, 53.9)	84.5 (83.3, 85.6)	14.2 (12.8, 15.7)	80.6 (77.6, 83.3)	85.7 (81.9, 88.8)	89.4 (87.6, 90.9)
Lived in United States < 10 y	1.2 (1.0, 1.3)	6.6 (5.4, 8.1)	33.3 (31.5, 35.2)	1.8 (1.4, 2.3)	20.6 (17.2, 24.5)	26.1 (21.7, 31.0)	34.4 (31.7, 37.2)

Note. CI = confidence interval. Estimates were adjusted for survey sampling weights, and standard errors included correction for sampling design.

[a]Activity that meets Centers for Disease Control and Prevention and American College of Sports Medicine recommendations.[1]

[b]Self-rated health was defined as fair or poor versus good or better. Physical limitations were defined as any difficulties with performing unaided activities. Psychological distress was defined as negative mood that interfered with functioning "some" or "a lot" during the past 30 days.

[c]Five or more drinks consumed per episode.

TABLE 2—Unadjusted and Multivariate-Adjusted Odds Ratios From Ordinal Logistic Models Comparing Physical Activity Levels Among Hispanic Subgroups and Non-Hispanic White Individuals, by Gender: National Health Interview Survey, 2000–2003

	Men and Women	Men	Women
Race/ethnicity, OR (95% CI)			
Non-Hispanic White (Ref)	1.00	1.00	1.00
Puerto Rican	0.55 (0.49, 0.62)	0.63 (0.53, 0.74)	0.49 (0.42, 0.57)
Mexican	0.42 (0.39, 0.45)	0.41 (0.38, 0.44)	0.42 (0.39, 0.46)
Mexican American	0.68 (0.63, 0.73)	0.70 (0.63, 0.78)	0.65 (0.59, 0.72)
Cuban	0.31 (0.26, 0.37)	0.36 (0.28, 0.47)	0.26 (0.20, 0.34)
Dominican	0.33 (0.28, 0.40)	0.36 (0.26, 0.51)	0.32 (0.24, 0.42)
Central or South American	0.60 (0.54, 0.65)	0.63 (0.55, 0.72)	0.56 (0.50, 0.63)
Race/ethnicity, AOR (95% CI)			
Non-Hispanic White (Ref)	1.00	1.00	1.00
Puerto Rican	0.77 (0.68, 0.87)	0.89 (0.74, 1.08)	0.67 (0.57, 0.79)
Mexican	0.77 (0.71, 0.84)	0.84 (0.75, 0.94)	0.72 (0.63, 0.82)
Mexican American	0.80 (0.74, 0.87)	0.82 (0.73, 0.92)	0.78 (0.70, 0.87)
Cuban	0.59 (0.48, 0.73)	0.80 (0.58, 1.11)	0.43 (0.33, 0.58)
Dominican	0.52 (0.41, 0.66)	0.58 (0.40, 0.83)	0.48 (0.33, 0.69)
Central or South American	0.84 (0.74, 0.95)	0.95 (0.80, 1.14)	0.76 (0.65, 0.87)
Age groups, y, AOR (95% CI)			
18–24 (Ref)	1.00	1.00	1.00
25–34	0.79 (0.74, 0.84)	0.73 (0.66, 0.79)	0.85 (0.78, 0.92)
35–44	0.74 (0.70, 0.79)	0.64 (0.58, 0.70)	0.85 (0.79, 0.92)
45–54	0.63 (0.59, 0.68)	0.52 (0.47, 0.58)	0.76 (0.70, 0.82)
55–64	0.53 (0.50, 0.57)	0.44 (0.40, 0.50)	0.63 (0.58, 0.69)
65–74	0.56 (0.50, 0.62)	0.56 (0.47, 0.68)	0.60 (0.52, 0.68)
≥75	0.33 (0.29, 0.37)	0.38 (0.32, 0.48)	0.32 (0.28, 0.37)
Gender, AOR (95% CI)			
Men (Ref)	1.00	…	…
Women	0.86 (0.83, 0.88)	…	…
Education, AOR (95% CI)			
Less than high school (Ref)	1.00	1.00	1.00
High school diploma	1.33 (1.26, 1.40)	1.34 (1.24, 1.45)	1.33 (1.24, 1.42)
Some college	1.87 (1.77, 1.98)	1.91 (1.76, 2.06)	1.86 (1.73, 2.00)
College or greater	2.66 (2.51, 2.82)	2.81 (2.59, 3.05)	2.56 (2.38, 2.76)
Marital status, AOR (95% CI)			
Never married (Ref)	1.00	1.00	1.00
Separated	0.87 (0.82, 0.91)	0.88 (0.81, 0.95)	0.87 (0.81, 0.93)
Married or living together	0.86 (0.81, 0.90)	0.82 (0.76, 0.88)	0.91 (0.85, 0.96)
Family composition, AOR (95% CI)			
No children (Ref)	1.00	1.00	1.00
1 child	0.85 (0.81, 0.89)	0.92 (0.86, 0.99)	0.80 (0.75, 0.85)
≥2 children	0.88 (0.84, 0.92)	0.94 (0.88, 1.01)	0.84 (0.79, 0.90)
Older people in the home, AOR (95% CI)			
No elders (Ref)	1.00	1.00	1.00
Elder in home	0.87 (0.80, 0.94)	0.79 (0.68, 0.91)	0.88 (0.79, 0.97)
Employment status, AOR (95% CI)			
Unemployed last week (Ref)	1.00	1.00	1.00
Employed last week	0.90 (0.86, 0.93)	0.94 (0.88, 1.00)	0.88 (0.84, 0.92)

Continued

non-Hispanic White individuals. The multivariate model results showed 3 findings. First, most of the sociodemographic and other study variables that were different across Hispanic subgroups were also associated with leisure-time physical activity. Second, comparing the unadjusted and multivariate-adjusted odds ratios showed that the sociodemographic and other model covariates attenuated the estimate of differences in leisure-time physical activity between the Hispanic subgroups and non-Hispanic White individuals. However, the differences in leisure-time physical activity between each Hispanic subgroup and the non-Hispanic White participants remained significant in most cases. Third, gender findings were notable, with differences in leisure-time physical activity levels from non-Hispanic White individuals disappearing for Puerto Rican, Cuban, and Central or South American men. Conversely, all Hispanic female subgroup results remained statistically different from those of non-Hispanic White women even after we controlled for sociodemographic confounders. In post hoc comparisons, none of the odds ratios for the male Hispanic subgroups were statistically different from one another. By contrast, Cuban women had smaller odds ratios than did Mexican ($F_{1,336}=11.57$; $P<.001$), Mexican American ($F_{1,337}=15.89$; $P<.001$), and Central or South American women ($F_{1,338}=14.80$; $P<.001$). All other female subgroups were statistically indistinct.

DISCUSSION

Our results indicated wide variability in socioeconomic and health circumstances among Hispanic participants identified by their country of origin. Although all Hispanic subgroups had lower levels of leisure-time physcial activity than did non-Hispanic White participants, significant differences in leisure-time physical activity prevalence were found among the subgroups. Our findings indicate that greater attention should be given to the needs of these underserved populations and more targeted efforts should be directed at the subgroups that are encompassed within the larger category of Hispanic persons living in the United States.

The Hispanic subgroups were heterogeneous. Puerto Rican individuals were among

TABLE 2—*Continued*

Self-rated health,[a] AOR (95% CI)			
Good or better (Ref)	1.00	1.00	1.00
Poor or fair	0.47 (0.44, 0.49)	0.47 (0.44, 0.51)	0.46 (0.43, 0.50)
Physicality,[b] AOR (95% CI)			
No physical limitations (Ref)	1.00	1.00	1.00
Physical limitations	0.85 (0.82, 0.87)	0.87 (0.82, 0.91)	0.83 (0.79, 0.86)
Distress interference,[c] AOR (95% CI)			
No distress interference	1.00	1.00	1.00
Psychological distress interfered	0.92 (0.87, 0.97)	0.95 (0.87, 1.03)	0.89 (0.83, 0.96)
Health insurance			
Private or Medicare (Ref)	1.00	1.00	1.00
Medicaid	0.62 (0.57, 0.67)	0.65 (0.56, 0.75)	0.62 (0.57, 0.68)
No health insurance	0.81 (0.77, 0.85)	0.79 (0.74, 0.85)	0.83 (0.77, 0.89)
Behavioral risk factors			
Never smoker (Ref)	1.00	1.00	1.00
Former smoker	1.26 (1.21, 1.31)	1.25 (1.18, 1.33)	1.28 (1.23, 1.34)
Current smoker	0.86 (0.82, 0.89)	0.85 (0.80, 0.90)	0.87 (0.82, 0.92)
No weekly heavy drinking[d] (Ref)	1.00	1.00	1.00
Weekly heavy drinking	1.21 (1.13, 1.29)	1.14 (1.06, 1.23)	1.32 (1.15, 1.51)
Census region, AOR (95% CI)			
Northeast (Ref)	1.00	1.00	1.00
Midwest	0.89 (0.83, 0.94)	0.85 (0.79, 0.92)	0.92 (0.85, 0.99)
South	0.78 (0.73, 0.83)	0.78 (0.72, 0.84)	0.78 (0.72, 0.84)
West	1.08 (1.01, 1.15)	1.07 (0.99, 1.16)	1.09 (1.01, 1.17)
Season, AOR (95% CI)			
Winter (Ref)	1.00	1.00	1.00
Spring	1.15 (1.10, 1.21)	1.14 (1.06, 1.23)	1.15 (1.09, 1.22)
Summer	1.12 (1.06, 1.18)	1.11 (1.03, 1.18)	1.13 (1.06, 1.20)
Fall	0.97 (0.92, 1.03)	0.96 (0.89, 1.03)	0.99 (0.92, 1.05)
Language during interview, AOR (95% CI)			
English only (Ref)	1.00	1.00	1.00
Spanish and English	0.83 (0.73, 0.93)	0.87 (0.74, 1.04)	0.78 (0.66, 0.92)
Spanish only	0.68 (0.61, 0.76)	0.61 (0.53, 0.70)	0.77 (0.66, 0.89)
Nativity, AOR (95% CI)			
Born in the United States (Ref)	1.00	1.00	1.00
Born elsewhere	0.90 (0.84, 0.96)	0.87 (0.78, 0.96)	0.93 (0.86, 1.01)
Residence, AOR (95% CI)			
Lived in United States > 10 y (Ref)	1.00	1.00	1.00
Lived in United States < 10 y	0.76 (0.70, 0.84)	0.76 (0.67, 0.87)	0.75 (0.66, 0.86)

Note. OR = odds ratio; CI = confidence interval; AOR = adjusted odds ratio. Model outcome is a 3-level ordinal variable: (1) no leisure-time physical activity; (2) some leisure-time physical activity; and (3) leisure-time physical activity at recommended levels for health benefit. The table presents ORs representing the association between a covariate and being in the next-higher level of physical activity. The unadjusted ORs (top of table) are regression-model-calculated ORs for indicator variables representing Hispanic subgroups (relative to non-Hispanic White participants) without adjustment for other covariates. The multivariate AORs (bottom of table) are regression-model-calculated ORs for the full model, including Hispanic subgroup indicators and ORs for all the covariates added to the multivariate-adjusted model.

[a]Self-rated health was defined as fair or poor versus good or better.

[b]*Physical limitations* were defined as any difficulties with performing unaided activities.

[c]*Psychological distress* was defined as negative mood that interfered with functioning "some" or "a lot" during the past 30 days.

[d]Five or more drinks consumed per episode.

the most acculturated, least healthy, most likely to have health insurance, and most distressed. Cuban participants were the oldest, most likely to have been married, most educated, least likely to have children in the household, and among the least acculturated. Dominican persons, another Caribbean group, had the largest proportion of women, were least likely to be living with a partner, and had the largest proportion receiving Medicaid. Self-identified Mexican participants were the least educated, youngest, most likely to have children, and least likely to have health insurance. Conversely, self-identified Mexican American participants were more acculturated, more educated, less likely to be married, and more likely to be a current smoker compared with their Mexican counterparts. Finally, the Central or South American individuals were among the youngest and healthiest group, with educational levels approximating those of Cuban participants.

Leisure-time physical activity varied significantly among Hispanic subgroups. Cuban and Dominican subgroups were the least active, particularly among women. Conversely, Mexican American participants were the most active. For Puerto Rican, Cuban, and Central or South American men, controlling for socioeconomic factors reduced the estimate of disparities in leisure-time physical activity prevalence to be statistically nonsignificant. However, the socioeconomic covariates had a much smaller effect on leisure-time physical activity disparities among women.

Our study adds to the current understanding of disparities in leisure-time physical activity by considering many potential confounders and by examining physical activity across Hispanic subgroups. The strengths of the study include use of recent, nationally representative data and statistical methods for simultaneously examining physical activity across the spectrum of activity: no leisure-time physical activity, some leisure-time physical activity, and activity that meets CDC and American College of Sports Medicine recommendations.[1]

The strengths of the study must be considered in light of some limitations. Two factors that were not assessed in the study because of limitations of the data were environmental factors[20] and occupational activity.[4] Also, the estimates of leisure-time physical activity

relied on self-report rather than on more-objective measures (e.g., accelerometers). However, the low prevalence of leisure-time physical activity among Hispanic participants in this study was remarkable in light of the limitations of self-reports, including overreporting.[21]

Findings from the study have implications for the design of interventions to help individuals initiate, adopt, and maintain a program of regular leisure-time physical activity. Interventions need to address the particular cultural factors that impinge on physical activity adoption and the socioeconomic circumstances that are associated with leisure-time physical activity. These interventions must address the particular needs of subgroups that may be overlooked as surveillance focuses on groups broadly defined at a national level. ■

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Contributors

C.J. Neighbors and D.X. Marquez originated the study and created the original drafts of the brief. C.J. Neighbors conducted the statistical analyses. D.X. Marquez assisted with defining statistical parameters. B.H. Marcus reviewed drafts of the brief and provided substantive editorial input.

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Human Participant Protection

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