

Perceived Built Environment and Physical Activity in U.S. Women by Sprawl and Region

Philip J. Troped, PhD, Kosuke Tamura, MS, Heather A. Whitcomb, MA, Francine Laden, ScD

Appendix A

Perceptions of neighborhood environment among NHSII^a participants by demographic, health, and environmental characteristics (N=68,968), % (n)

	Total	Crime; unsafe to walk at night	Shops/stores in easy walking distance	Sidewalks on most streets	Free/low-cost recreation facilities
Overall sample	100 (68,968)	6.2 (4247)	26.6 (18,366)	51.3 (35,369)	67.2 (46,337)
Age (years)					
40–49	41.9 (28,862)	5.1 (1466)	26.8 (7,726)	50.9 (14,679)	68.0 (19,612)
50–59	58.2 (40,106)	6.9 (2781)	26.5 (10,640)	51.6 (20,690)	66.6 (26,725)
Race					
White	96.0 (66,238)	5.8 (3842)	26.0 (17,186)	50.3 (33,318)	66.9 (44,277)
Black	1.5 (998)	19.1 (191)	42.5 (424)	72.3 (722)	72.2 (721)
Asian	1.5 (1,012)	12.5 (126)	45.4 (459)	82.6 (836)	80.5 (815)
Other race	0.9 (620)	12.3 (76)	40.5 (251)	68.6 (425)	71.5 (443)
Missing	0.1 (100)	12.0 (12)	46.0 (46)	68.0 (68)	81.0 (81)
Ethnicity					
Hispanic	1.7 (1,160)	9.9 (115)	37.7 (437)	66.0 (765)	72.9 (846)
Non-Hispanic	97.8 (67,441)	6.1 (4105)	26.4 (17,829)	51.0 (34,405)	67.1 (45,227)
Missing	0.5 (367)	7.4 (27)	27.3 (100)	54.2 (199)	71.9 (264)
Husband's education					
Less than high school/high school	14.1 (9,689)	6.2 (598)	21.7 (2,104)	42.7 (4,136)	59.2 (5,739)
2-year college	16.2 (11,193)	6.2 (689)	24.8 (2,779)	47.4 (5,304)	63.3 (7,082)
4-year college	27.5 (18,946)	5.4 (1016)	26.1 (4,953)	52.1 (9,862)	68.7 (13,009)
Graduate school	27.3 (18,834)	4.8 (903)	28.0 (5,279)	53.0 (9,979)	72.0 (13,562)
Missing	14.9 (10,306)	10.1 (1041)	31.5 (3,251)	59.1 (6,088)	67.4 (6,945)
BMI categories					
Underweight (<18.5)	5.6 (3,844)	6.7 (258)	28.0 (1,077)	52.0 (2,000)	68.6 (2,635)
Normal (18.5–24.9)	42.4 (29,266)	4.8 (1404)	28.3 (8,292)	52.0 (15,217)	70.8 (20,727)
Overweight (25–29.9)	27.3 (18,832)	6.2 (1167)	26.9 (5,056)	51.0 (9,603)	66.7 (12,569)

	Total	Crime; unsafe to walk at night	Shops/stores in easy walking distance	Sidewalks on most streets	Free/low-cost recreation facilities
Obese (≥ 30)	24.7 (17,026)	8.3 (1418)	23.2 (3941)	50.2 (8549)	61.1 (10,406)
Urban sprawl index					
Low (≥ 111.30)	33.9 (23,343)	8.6 (2015)	38.9 (9089)	71.2 (16,613)	78.6 (18,357)
Medium (100.00–111.29)	33.1 (22,856)	5.5 (1255)	23.8 (5448)	48.4 (11,057)	67.8 (15,503)
High (62.55–99.99)	33.0 (22,769)	4.3 (977)	16.8 (3829)	33.8 (7,699)	54.8 (12,477)
Region					
Midwest	30.6 (21,093)	4.9 (1040)	21.3 (4497)	51.4 (10,847)	65.7 (13,862)
Northeast	33.5 (23,074)	5.0 (1147)	27.8 (6423)	43.9 (10,125)	68.4 (15,776)
South	18.6 (12,842)	7.2 (922)	19.9 (2549)	45.0 (5,777)	56.3 (7,229)
West	17.3 (11,959)	9.5 (1138)	41.0 (4897)	72.1 (8,620)	79.2 (9,470)
Walk ≥ 500 MET-min/wk					
Yes	24.4 (16,813)	4.8 (798)	32.3 (5,424)	54.9 (9,231)	72.9 (12,255)
No	75.6 (52,155)	6.6 (3449)	24.8 (12,942)	50.1 (26,138)	65.4 (34,082)
Walk-jog-run-bike ≥ 500 MET-min/wk					
Yes	36.2 (24,972)	5.0 (1244)	31.4 (7,841)	54.4 (13,580)	72.7 (18,158)
No	63.8 (43,996)	6.8 (3003)	23.9 (10,525)	49.5 (21,789)	64.1 (28,179)

min/wk, minutes/week; NHSII, Nurses' Health Study II

Appendix B

Associations between perceived neighborhood environment index and meeting physical activity recommendations, stratified by urban sprawl and region (N=68,968), OR (95% CI)

	One positive perception vs none		Two positive perceptions vs none		Three positive perceptions vs none		Four positive perceptions vs none	
	Walk ≥ 500 MET-min/wk	Walk-jog-run-bike ≥500 MET-min/wk	Walk ≥500 MET-min/wk	Walk-jog-run-bike ≥500 MET-min/wk	Walk ≥500 MET-min/wk	Walk-jog-run-bike ≥500 MET-min/wk	Walk ≥500 MET-min/wk	Walk-jog-run-bike ≥500 MET-min/wk
Overall	0.98 (0.79, 1.22)	1.08 (0.89, 1.31)	1.15 (0.93, 1.42)	1.30 (1.07, 1.58)	1.30 (1.05, 1.61)	1.47 (1.21, 1.78)	1.73 (1.39, 2.15)	1.95 (1.61, 2.37)
Urban sprawl								
Low	0.78 (0.50, 1.23)	0.85 (0.57, 1.28)	0.84 (0.54, 1.32)	0.94 (0.63, 1.41)	1.02 (0.65, 1.58)	1.12 (0.75, 1.67)	1.33 (0.85, 2.08)	1.47 (0.98, 2.19)
Medium	0.88 (0.61, 1.27)	1.00 (0.72, 1.40)	1.05 (0.73, 1.51)	1.21 (0.87, 1.69)	1.12 (0.78, 1.62)	1.31 (0.94, 1.82)	1.54 (1.06, 2.22)	1.77 (1.27, 2.48)
High	1.20 (0.86, 1.68)	1.28 (0.95, 1.71)	1.46 (1.04, 2.04)	1.62 (1.21, 2.17)	1.67 (1.19, 2.34)	1.82 (1.36, 2.45)	2.20 (1.56, 3.09)	2.41 (1.78, 3.26)
Region								
Midwest	0.83 (0.55, 1.25)	0.96 (0.67, 1.39)	0.99 (0.66, 1.49)	1.11 (0.77, 1.59)	1.23 (0.82, 1.84)	1.33 (0.92, 1.91)	1.57 (1.04, 2.36)	1.72 (1.19, 2.49)
Northeast	0.83 (0.55, 1.26)	0.91 (0.62, 1.34)	0.95 (0.62, 1.43)	1.10 (0.75, 1.61)	0.97 (0.64, 1.48)	1.14 (0.78, 1.67)	1.34 (0.88, 2.04)	1.43 (0.98, 2.11)
South	1.17 (0.80, 1.72)	1.15 (0.83, 1.60)	1.38 (0.94, 2.03)	1.41 (1.01, 1.95)	1.60 (1.09, 2.34)	1.60 (1.15, 2.23)	2.02 (1.36, 3.00)	2.17 (1.54, 3.05)
West	1.14 (0.61, 2.13)	1.50 (0.84, 2.69)	1.24 (0.67, 2.29)	1.83 (1.03, 3.25)	1.36 (0.73, 2.51)	1.99 (1.12, 3.53)	1.88 (1.01, 3.47)	2.79 (1.57, 4.96)

Note: Models adjusted for age, race, ethnicity, BMI categories, and husband's education. Perceived environment index is the sum of the number of positive perceptions from among four items (scores ranged from 0 to 4); cut-points for urban sprawl tertiles: low ≥111.30; medium = 100.00–111.29; high = 62.55–99.99 min/wk, minutes/week