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Associations of perceived neighborhood physical and social environments with physical activity and television viewing in African American men and women

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Abstract

Purpose—Few studies have assessed how attributes of neighborhood environments contribute to sedentary, in addition to active, behaviors. This study investigated associations of perceived social and physical aspects of neighborhood environments with television (TV) viewing and physical activity (PA) in African American adults.

Design—Cross-sectional analysis of self-reported survey.

Setting—Large mega-church in Houston, TX.

Subjects—1,374 African American men and women.

Measures—Outcomes included log-transformed daily TV viewing and participation in medium/high levels of PA, measured by the short version of the International Physical Activity Questionnaire. Neighborhood perceptions were assessed with the Social Cohesion and Trust and the Neighborhood Problems scales.

Analysis—Multivariable models that controlled for clustering within neighborhoods.

Results—Reporting more neighborhood problems was significantly associated with greater log-transformed TV viewing in women ($\beta=0.017$, $SE=0.006$, $p=0.003$), and social cohesion was positively associated with PA in women ($OR=1.06$, 95% $CI=1.02, 1.11$, $p=0.006$). Concerns about litter and walking after dark, and a lack of places to shop were associated with increased TV viewing among women, and concerns about traffic and walking after dark were associated with reduced PA among men.

Conclusion—Physical and social neighborhood conditions were associated with TV viewing and PA, particularly in women. Neighborhood-based strategies to reduce sedentary behaviors and enhance PA should include attention to social as well as physical aspects of neighborhood environments.

Keywords

physical activity; television viewing; African American; neighborhood; social environment

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Purpose

A physically active lifestyle is associated with myriad health benefits, including a reduced risk of heart disease, diabetes, stroke, certain cancers, obesity, and depression.¹⁻⁴ Furthermore, evidence increasingly indicates that prolonged sedentary time, involving sitting and low levels of energy expenditure,⁵ contributes to increased risk of diabetes, obesity, the metabolic syndrome, and total mortality, independent of physical activity.⁶⁻¹¹ Nonetheless, most adults in the U.S. are not physically active,¹²⁻¹⁴ and spend on average over 50 percent of their waking time in sedentary pursuits.¹⁵ Further, some racial/ethnic groups may be disproportionately affected by a lack of physical activity and high levels of sedentary behavior. For example, African Americans are estimated to watch considerably more television than other racial/ethnic groups^{16,17} and report less leisure-time physical activity than non-Hispanic Whites,¹³ although recent findings from objective measures suggest more comparable levels of activity.

A social-ecological framework emphasizes the role of environmental factors in influencing individual health behaviors.^{18,19} A rapidly growing body of research provides strong evidence that characteristics of neighborhood built environments, such as walkability,²⁰⁻²² availability of and proximity to recreational resources,²³⁻³⁰ access to neighborhood destinations,^{29,31-34} aesthetics,^{24,30} and street and sidewalk quality³⁴ contribute to adults' participation in physical activity. It is also conceivable that characteristics of neighborhood environments contribute to engagement in sedentary behaviors. Built environments that are not conducive to outdoor physical activity (e.g., those with few opportunities for being active, unpleasant environments, heavy traffic) may cause residents to remain indoors where sedentary behaviors such as TV viewing may be common. Few studies, however, have investigated these relationships, and research findings have been inconsistent. An Australian study observed an inverse relationship between neighborhood walkability and TV viewing time among women but not men,³⁵ whereas another study found walkability to be positively associated with objective sedentary time in men and women.³⁶ Perceived aspects of the neighborhood environment including heavy traffic, poor lighting, unattractive scenery, the absence of others out walking, and crime were found to be associated with TV viewing in a large national study.³⁷ These and other studies, however, have been conducted with predominantly White populations, yet patterns of activity and neighborhood influences are believed to differ by race/ethnicity.

Furthermore, despite widespread recognition that health behaviors are shaped by individuals' social environments,⁴²⁻⁴⁴ relatively little attention has been devoted toward understanding the impact of neighborhood social processes on engagement in physical activity and sedentary behaviors. Prior research in this area has focused largely on safety and crime with somewhat mixed findings.⁴⁵ Subjective measures of perceived safety including those that encompassed safety-related attributes (e.g., heavy traffic, street lighting, unattended dogs) have been associated with physical activity in some studies, particularly among women,⁴⁶⁻⁴⁸ but not in others.⁴⁹⁻⁵² Further, these relationships have differed by gender^{53,54} and race.⁵⁵ Other dimensions of the neighborhood social context may also contribute to physical activity and sedentary behaviors but have been examined in only a limited number of studies. Neighborhood social cohesion refers to the social ties, trust, and reciprocity shared among neighbors.⁴³ Socially cohesive and trusting neighborhoods may encourage physical activity and reduce sedentary behaviors by promoting positive social norms, motivating collective action to address neighborhood issues relevant to outdoor physical activity (e.g. crime, cars that drive fast), providing social support, and through increased social exchange that may facilitate improved awareness of local physical activity resources and programs.^{43,44} Current research has yielded inconsistent results regarding the

role of social cohesion on physical activity^{50,51,56} with no studies focused on sedentary behaviors.

The objective of this study was to investigate associations of perceived social and physical aspects of neighborhood environments with TV viewing and physical activity in a large, church-based sample of African American men and women. Specifically, we examined neighborhood social cohesion and neighborhood problems pertaining to the built and social environments. With few studies in this area focused on African Americans, and African American men in particular, this research provides a unique opportunity to examine these relationships in this understudied population. We hypothesized that TV viewing would be positively associated with neighborhood problems and inversely associated with neighborhood social cohesion. In comparison, we hypothesized that physical activity would be inversely associated with neighborhood problems and positively associated with neighborhood social cohesion.

Methods

Design

This study used baseline data from Project CHURCH (Creating a Higher Understanding of cancer Research and Community Health), a longitudinal cohort study to investigate behavioral, social, and environmental cancer risk factors among a church-based sample of African American adults. Project CHURCH was established by the University of Texas MD Anderson Cancer Center in partnership with a large African American mega-church in Houston. A church advisory board contributed to the development of all study procedures and protocols.

Sample

Participants were recruited before and after regular church services and through in-church media announcements and flyers. Individuals were eligible to participate if they were at least 18 years of age, able to read and write in English, lived in the Houston metropolitan area, and had a valid telephone number and home address. Enrolled participants (n=1,467) consented to participate and completed a computer-administered self-interview survey in 2009. Participants' residential addresses were geocoded using the Environmental Systems Research Institute's ArcGIS software (ESRI, Redlands, CA). Addresses could not be geocoded for 93 participants due to the reporting of P.O. boxes and incomplete address information, resulting in a final sample size of 1,374. The Institutional Review Board at The University of Texas MD Anderson Cancer Center approved all aspects of this study.

Measures

Television viewing—Weekday and weekend TV viewing questions asked participants to estimate the number of hours spent watching television on a typical weekday and weekend. Questions assessing weekday and weekend TV viewing time separately have consistently been found to exhibit reasonable test-retest reliability (i.e., intraclass correlation coefficients range [ICC] from 0.71 to 0.93).⁵⁷ The average number of hours spent watching television per day was calculated by summing the weighted responses to the two questions and dividing by seven days. Because self-reported TV viewing time was positively skewed, we applied natural logarithmic transformations ($\log_e$) to increase normality.

Physical activity—The short form of the International Physical Activity Questionnaire (IPAQ) was used to assess the frequency and duration of walking and moderate and vigorous physical activity in the last 7 days. The IPAQ is considered a standardized measure to estimate regular self-reported physical activity in populations from different sociocultural

contexts.⁵⁸ The short-version has good test-retest reliability (Spearman's $\rho = 0.8$) and acceptable criterion validity against accelerometer data (median $\rho = 0.30$).⁵⁸ Scoring procedures established by the International Prevalence Study (available at <http://www.ipaq.ki.se/>) were used to classify participants into low, medium, and high levels of physical activity. The medium level corresponds to meeting physical activity guidelines put forth by the American College of Medicine and the Centers for Disease Control and Prevention⁵⁹ of at least 30 minutes of moderate intensity activity on five or more days of the week or 20 minutes of vigorous intensity activity on 3 or more days of the week, or a combination of the two that amounts to at least 600 metabolic equivalent (MET) minutes per week.

Neighborhood perceptions—Two measures were used to assess respondents' perceptions of their neighborhood physical and social environments. The Social Cohesion and Trust scale asked respondents how strongly they agreed with statements about their neighbors ("people around here are willing to help their neighbors," "this is a close-knit neighborhood," "people in this neighborhood can be trusted," "people in this neighborhood generally do not get along with each other," and "people in my neighborhood do not share the same values").⁶⁰ The five items, measured on a 5-point scale (1=strongly agree, 5=strongly disagree) were summed (the last two statements were reverse coded), with possible scores ranging from 5 to 25. Higher scores indicated greater perceived neighborhood social cohesion and trust. This measure has exhibited excellent test-retest correlations (e.g., ICC=0.90) in previous studies involving minority populations,^{61,62} and the internal consistency in this sample was good (Cronbach's $\alpha = .81$).

The Neighborhood Problems scale assessed how much a given condition (e.g. litter, traffic, noise, lack of places to shop) was a problem in respondents' neighborhoods ("not a problem," "some problem," "a serious problem"). The conditions assessed in this scale were intended to represent features of urban living that may be sources of chronic stress.⁶³ The 10-item adaptation was used,⁶² with scores ranging from 10 to 30, and higher scores indicating greater neighborhood problems. The Cronbach's alpha for this scale was 0.85.

Sociodemographics—Self-reported sociodemographic characteristics included gender; age; educational attainment (high school degree, some college/Associate's degree, Bachelor's degree); annual household income (< \$40,000, \$40,000-\$79,999, \$80,000); employment status (currently employed, not employed); marital status (married/living as married, divorced/separated/widowed, never married); and presence of children under 18 years of age in the home (yes, no).

Statistical Analysis

Pearson chi-square tests and t-tests were used to examine gender differences in participant characteristics and neighborhood perceptions for categorical and continuous variables, respectively. Research hypotheses were examined using generalized estimating equations with robust variance estimates to control for potential correlations among participants living in the same Census tract. We conducted a series of regression models to assess associations of neighborhood problems and social cohesion with physical activity and TV viewing while controlling for potential confounding variables. For each outcome, we first examined neighborhood problems and adjusted for sociodemographics (age, education, household income, employment status, marital status, children in the home, and the number of years residing in the neighborhood) due to known associations with the outcomes.^{35,37,64} These models were repeated with social cohesion as the independent variable of interest. A final analysis included both neighborhood problems and social cohesion as predictors in a fully adjusted model to assess their unique contributions to these behaviors. Potential

multicollinearity among the independent variables was assessed by examining the Tolerance and Variance Inflation Factor (VIF). All values were >0.40 and <2.5 for Tolerance and VIF, respectively, suggesting that multicollinearity was not a concern.

Exploratory analyses were then conducted to examine the individual conditions that comprise the neighborhood problems scale to identify the specific factors most associated with physical activity and TV viewing outcomes. Conditions, with responses categorized as “some problem/serious problem” and “not a problem,” were examined in models that controlled for sociodemographics using generalized estimating equations, as described above. Although examining a number of neighborhood conditions for their associations with behavioral outcomes raises the likelihood that some associations may be significant due to chance alone, we did not adjust for multiple comparisons due to the exploratory nature of this part of the analysis.

Given that physical activity differs among men and women,¹⁴ all models were stratified by gender to enable examination of gender-specific relationships. Analyses were performed using SAS version 9.2 (SAS Institute, Cary, NC).

Results

Participant characteristics ($n=1,374$) are shown in Table 1. Participants were on average 45 years of age ($SD=12.9$), and the vast majority were female (75%), had completed high school (87%), reported an annual household income of \$40,000 or more (75%), and were currently working (74%). Participants reported watching on average 4.04 hours of TV per day ($SD=3.0$; median=3.14), and nearly three-fourths reported engaging in medium or high levels of physical activity, with men reporting greater participation in physical activity than women and more daily TV viewing, although this latter difference was not statistically significant ($p=0.06$). Women reported more neighborhood problems than men and were also more likely than men to report the following conditions as problems in their neighborhoods: walking around after dark, problems with dogs, noise from traffic or other homes, and vandalism.

Tables 2 and 3 show associations of neighborhood perception variables with log-transformed TV viewing and physical activity outcomes, respectively. For men, neighborhood perceptions were not significantly associated with TV viewing in any regression model. Among women, TV viewing time was positively associated with neighborhood problems in both models, with some attenuation of the effect in model 2, which adjusted for social cohesion in addition to sociodemographics. Given the natural log transformation of TV viewing time, the regression coefficients can be interpreted as the percent change in the outcome variable associated with a one-unit increase in the independent variable. Thus, a one-unit difference in the neighborhood problems score in model 1 was associated with a 1.7% difference in TV viewing time in women. Given the response categories for the neighborhood conditions, a more meaningful interpretation may be to compare the predicted outcomes of women with different scores. Women who reported that the ten conditions comprising the neighborhood problems scale were, on average, not a problem (score=10), somewhat of a problem (score=20), and a serious problem (score=30) were estimated to watch 3.05, 3.63, and 4.32 hours of daily TV, respectively. Social cohesion was marginally and inversely associated with women's TV viewing time in model 1 ($p=0.055$), but this effect disappeared when neighborhood problems was included in model 2.

For physical activity, a marginally statistically significant association was observed among men suggesting a trend toward an inverse relationship with neighborhood problems ($p=0.06$).

when controlling for sociodemographics. This effect was attenuated upon including both neighborhood perception variables in the models. Among women, we observed no significant associations between neighborhood problems and physical activity; however, greater social cohesion predicted increased odds of reporting medium/high levels of physical activity in both models. The predicted probabilities from regression model 1 for reporting medium/high levels of physical activity were 0.53, 0.67, and 0.79 for women with a social cohesion score of 5, 15, and 25 (range=5-25), respectively.

Table 4 displays the adjusted regression coefficients and odds ratios for associations of individual neighborhood conditions with log-transformed TV viewing and participation in medium/high levels of physical activity in men and women, controlling for sociodemographics. Among men, none of the neighborhood conditions were associated with TV viewing; however, concerns about walking around after dark and traffic and road safety were associated with an approximately 50-60% reduced odds of participation in medium/high levels of physical activity. Among women, reporting litter, walking after dark, and a lack of places to shop as problems were associated with an increase in TV viewing time of 12%, 11%, and 10%, respectively. There were no statistically significant associations between specific neighborhood conditions and physical activity in women, although concerns regarding smells and fumes and walking around after dark were marginally inversely associated with physical activity ($p < 0.10$).

Discussion

This study examined the associations of neighborhood perceptions with TV viewing and physical activity in a large church-based sample of African American men and women. Women's mean daily TV viewing time increased with the number of neighborhood problems reported, even after controlling for sociodemographics and social cohesion. Social cohesion was positively associated with physical activity, although this relationship only reached statistical significance in women. By examining individual neighborhood conditions separately, we were able to identify those most relevant for each behavior. These findings contribute to the small but growing literature focused on understanding how neighborhood attributes may influence sedentary, in addition to active, behaviors in diverse samples of adults.

Results suggest that perceiving greater disorder within one's neighborhood was associated with increased time in sedentary behaviors such as TV viewing among women, perhaps by discouraging outdoor activity. This association was independent of social cohesion, although the magnitude of the association was reduced upon including social cohesion in the model. These results are consistent with a previous study that observed positive associations between TV viewing and perceived aspects of the neighborhood environment, including heavy traffic and crime, poor lighting, and unattractive scenery in a national sample of primarily non-Hispanic White adults.³⁷ The current study extends this work by: a) evaluating a large number of established neighborhood problems collectively and individually, b) examining neighborhood problems simultaneously with neighborhood social processes, and c) focusing on African American men and women, an understudied population in physical activity and sedentary behavior research. Further, our examination of the specific conditions that comprise the neighborhood problems scale identified litter in the streets, concerns about walking after dark, and a lack of places to shop as the conditions most strongly and positively associated with women's TV viewing time. Whereas attributes pertaining to neighborhood aesthetics, safety-related concerns, and the accessibility of retail destinations have been shown to influence physical activity, this is among the first studies to suggest that these features may also affect sedentary behaviors such as TV viewing, at least among women. Results did not suggest an association between perceived neighborhood

problems and TV viewing among men, although additional research is needed to investigate this further.

The current body of literature investigating neighborhood stressors and physical activity has produced mixed findings, which may be indicative of differences in samples, settings, and assessment measures across studies. Aggregate measures of neighborhood disorder were found to be inversely associated with walking in a sample of older, primarily African American adults,⁵⁶ whereas other studies have failed to find significant associations between neighborhood problems assessed at both the individual^{53,63} and neighborhood levels and physical activity in studies involving non-Hispanic Whites^{53,63,65} and African Americans.⁵⁵ In this study, the collective measure of neighborhood problems was not significantly associated with physical activity in either men or women; however, concerns about traffic and road safety, disturbances, and a lack of places to shop contributed to reduced physical activity in men. The latter two problems have been identified in a meta-analysis for their association with physical activity across a range of studies.

Socially cohesive neighborhoods are defined by the presence of strong social bonds and the absence of latent social conflict, contributing to high levels of trust, shared norms, and reciprocity among neighborhood residents.⁴³ By providing a supportive social environment, socially cohesive neighborhoods may help to facilitate engagement in healthy behaviors and discourage unhealthy ones. In the current study, women who perceived greater social cohesion reported less TV viewing, although this relationship was only marginally statistically significant ($p=0.055$). This association weakened considerably with the addition of neighborhood problems in the model, suggesting common variance and a stronger independent effect of neighborhood problems on TV viewing relative to social cohesion. In comparison, the finding that women's physical activity was not associated with any measure of neighborhood problems yet was positively associated with social cohesion suggests that neighborhood social processes may play a greater role in shaping active behaviors, at least among women, than perceptions based largely on the physical environment. Although we observed a comparable effect size for social cohesion on men's physical activity, the association did not reach statistical significance. Among the limited studies investigating relationships between social cohesion, measured as a neighborhood and/or individual-level construct, and physical activity, two have observed positive associations with walking⁵⁶ and neighborhood-based physical activity,⁵¹ whereas another found no association with leisure-time walking or physical activity among women.⁵⁰ A number of studies have assessed perceived trust among neighbors, an important element of social cohesion, with the majority supporting a positive association with physical activity, particularly among women,^{50,67,68} although null findings have been observed.

While the findings support the literature suggesting that neighborhood social processes such as social cohesion may be important contextual influences on behaviors such as physical activity, the mechanisms linking these social processes to behavior are unclear. Although we may speculate that greater social cohesion facilitates physical activity through, for example, positive social norms, collective action to reduce barriers and limit unfavorable conditions, enhancing awareness and use of local physical activity resources and programs, these assumptions need to be examined empirically. Such information will be critical to inform the design of neighborhood-based intervention strategies and health promotion efforts that aim to promote neighborhood environments supportive of physical activity.

Findings from this research must be interpreted within the context of several limitations. First, the cross-sectional nature of our data limits inferences of causality and the direction of observed relationships. Second, these data were based on self-report and thus subject to recall and social desirability bias. This may have contributed to the unusually high levels of

physical activity participation reported in this sample. Overreporting has been identified as a limitation of the IPAQ.⁶⁹ The extent to which misclassification of participants may have contributed to our study findings is unclear. In addition, neighborhood characteristics were self-reported perceptions and thus may not represent actual conditions. However, perceptions of neighborhood features may be just as important as objective conditions in their influence on behaviors.^{22,70} Future studies should include both objective and subjective measures to determine their relative contributions to behavioral outcomes and the extent to which results are consistent across measures. Third, the limited variability observed for the physical activity and neighborhood problems variables, particularly among men, may have constrained our ability to detect significant associations. Fourth, this study did not inquire about where participants were active or for what purpose. Previous studies suggest that the nature and magnitude of relationships between neighborhood environments and physical activity may vary according to the type of activity performed.^{29,71} Information about the context of participants' physical activity would have provided greater specificity and may have enhanced the predictive ability of our analytic models. Additional research that examines more precisely the context of physical activity and the settings in which it occurs is needed to help clarify and disentangle these relationships. Fifth, although this research observed some differences in the gender-specific relationships, the discrepancy in sample size between men and women made it difficult to formally assess whether these were indicative of true differences by gender. Further examination of these relationships, particularly in men and women of different racial/ethnic groups, is warranted. Finally, this study involved a convenience sample of church-based African American adults in Houston, TX, which may reflect a more homogeneous group relative to the population of African American adults in Houston or nationally. Compared to African Americans in Harris County (the county encompassing Houston), participants in this study tended to report more education (e.g. 49% reported a Bachelor's degree compared to 20% in Harris County) and were more likely to be married (45% vs. 32%), and employed (74% vs. 59%).⁷² Thus, the findings reported here may not be generalizable to populations in other settings.

In conclusion, this study adds to the literature highlighting the role of neighborhood contextual factors to salient health behaviors. Whereas previous research has focused primarily on the built environment in relation to physical activity, this study extends this work to include an important focus on potential neighborhood stressors, social cohesion, and their importance to active and sedentary behaviors in African American adults. Our findings underscore the importance of considering neighborhood social processes and the design and conditions of the physical environment for intervention and policy efforts to promote active lifestyles and reduce sedentary behaviors such as TV viewing. Neighborhood-based interventions that facilitate positive interactions among residents while also promoting physical activity may effect positive changes in behavior while concurrently strengthening social ties. Additional research that examines neighborhood characteristics in combination with established psychosocial determinants of physical activity (e.g., self-efficacy, perceived benefits, social support) can advance understanding of the relative influence of these variables and the ways in which they may interact or influence one another to affect behavior. Thus, further investigation of the relationships between neighborhood problems, social processes, and active and sedentary behaviors are needed, with a particular emphasis on identifying the mechanisms that link these contextual factors to behavioral outcomes.

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So What?**What is already known on this topic?**

A large body of literature provides strong evidence that characteristics of neighborhood built environments influence physical activity behavior in predominantly white, middle class populations. Much less research has focused on the neighborhood social environment, the extent to which environmental characteristics affect sedentary behaviors, and minority populations.

What does this article add?

The current study builds upon this work by examining potential neighborhood stressors, social cohesion, and their importance to active and sedentary behaviors in African American adults. Results suggest that among women, perceiving more neighborhood problems was associated with increased TV viewing, and neighborhood social cohesion was positively associated with physical activity. This study also identified specific neighborhood problems associated with these behaviors in both men and women.

What are the implications for health promotion practice or research?

Results highlight the need to consider both physical and social environmental characteristics in intervention and policy efforts to promote physical activity and reduce sedentary behavior. Future research should examine the mechanisms through which neighborhood attributes affect behavior.

Table 1

Participant characteristics, N (%)^a unless otherwise indicated

	Total (n=1,374)	Men (n=349)	Women (n=1,025)	P-value
Sociodemographics				
Age (M [SD])	45.1 (12.9)	44.2 (13.7)	45.4 (13.6)	0.13
Education				0.03
High school degree	173 (12.6)	54 (15.5)	119 (11.6)	
Some college/Associate's degree	533 (38.8)	144 (41.4)	389 (38.0)	
Bachelor's degree	667 (48.6)	150 (43.1)	517 (50.4)	
Annual household income				<0.001
< \$40,000	329 (24.7)	64 (19.3)	264 (26.5)	
\$40,000-79,999	523 (39.4)	120 (36.1)	403 (40.5)	
\$80,000	477 (35.9)	148 (44.6)	329 (33.0)	
Marital status				<0.001
Married	612 (44.6)	218 (62.6)	394 (38.4)	
Divorced/separated/widowed	363 (26.4)	47 (13.5)	316 (30.8)	
Never married	398 (29.0)	83 (23.9)	315 (30.7)	
Currently working	1018 (74.2)	267 (76.7)	751 (73.3)	0.21
Children in the household	564 (41.1)	143 (41.0)	421 (41.1)	0.97
Years living in neighborhood (M [SD])	10.1 (10.0)	10.0 (9.7)	10.2 (10.1)	0.84
Behaviors				
Physical activity				<0.001
Low	358 (26.3)	51 (14.3)	295 (29.4)	
Medium/high	1002 (73.7)	307 (85.7)	707 (70.6)	
Hours TV/day (M [SD])	4.04 (3.0)	4.31 (3.1)	3.95 (3.0)	0.06
(Median [IQR]) ^a	3.14 (2.7)	3.43 (2.9)	3.00 (2.6)	
Neighborhood scales				
Neighborhood Problems (M [SD])	13.2 (3.6)	12.8 (3.4)	13.3 (3.6)	0.02
Social Cohesion (M [SD])	18.0 (3.3)	18.3 (3.2)	17.9 (3.3)	0.12
Neighborhood conditions^b				
Litter in the streets	441 (32.2)	105 (30.4)	336 (32.8)	0.42

	Total (n=1,374)	Men (n=349)	Women (n=1,025)	P-value
Smells and fumes	209 (15.3)	48 (13.9)	161 (15.7)	0.42
Walking around after dark	502 (36.7)	93 (27.0)	409 (40.0)	<0.001
Problems with dogs	429 (31.3)	84 (24.4)	345 (33.7)	0.001
Noise from traffic or other homes	375 (27.4)	76 (22.0)	299 (29.2)	0.01
Lack of entertainment	326 (23.8)	77 (22.3)	249 (24.3)	0.45
Traffic and road safety problems	299 (21.9)	72 (20.9)	227 (22.2)	0.60
Lack of places to shop	332 (24.3)	76 (22.0)	256 (25.0)	0.27
Vandalism	515 (37.6)	112 (32.5)	403 (39.4)	0.02
Disturbances by neighbors/youngsters	369 (27.0)	100 (29.0)	369 (26.3)	0.33

* Percentages based on the number of valid responses for each item.

^a Median values and interquartile ranges are shown due to the positive skewness of the data

^b Indicates reporting a condition as "some problem" or "serious problem"

Adjusted regression coefficients showing associations of neighborhood perceptions with log-transformed TV viewing time in African American men and women.

Table 2

	Men		Women	
	β (SE)	P-value	β (SE)	P-value
Neighborhood problems				
Model 1 ^a	0.002 (0.010)	0.830	0.017 (0.006)	0.003
Model 2 ^b	0.004 (0.010)	0.713	0.015 (0.006)	0.014
Social cohesion				
Model 1 ^a	0.005 (0.011)	0.689	-0.014 (0.007)	0.055
Model 2 ^b	0.006 (0.012)	0.627	-0.009 (0.008)	0.246

^aModel 1 adjusts for sociodemographics (age, education, income, employment, marital status, presence of children in the home, and the number of years living in the neighborhood)

^bModel 2 adjusts for the variables in model 1 and includes both neighborhood perception scales

Table 3

Adjusted odds ratios showing associations of neighborhood perceptions with participation in medium/high levels of physical activity in African American men and women.

	Men		Women	
	OR (95% CI)	P-value	OR (95% CI)	P-value
Neighborhood problems				
Model 1 ^a	0.92 (0.84, 1.00)	0.063	0.99 (0.95, 1.03)	0.463
Model 2 ^b	0.93 (0.85, 1.02)	0.121	1.01 (0.96, 1.05)	0.796
Social cohesion				
Model 1 ^a	1.07 (0.98, 1.17)	0.141	1.06 (1.02, 1.11)	0.006
Model 2 ^b	1.05 (0.96, 1.15)	0.325	1.07 (1.02, 1.12)	0.007

^aModel 1 adjusts for sociodemographics (age, education, income, employment, marital status, presence of children in the home, and the number of years living in the neighborhood).

^bModel 2 adjusts for the variables in model 1 and includes both neighborhood perception scales

Table 4
Adjusted^a regression coefficients and odds ratios (ORs) showing associations of perceived neighborhood conditions with log-transformed TV viewing time and participation in medium/high levels of physical activity in men and women

Perceived Neighborhood Problem	TV Viewing		Physical Activity	
	Men β (SE)	Women β (SE)	Men OR (95% CI)	Women OR (95% CI)
Litter in the streets	-0.064 (0.076)	0.115 [*] (0.048)	0.66 (0.33, 1.32)	1.30 (0.97, 1.73)
Smells and fumes	-0.021 (0.099)	0.037 (0.059)	0.46 ^b (0.21, 1.03)	0.74 ^b (0.53, 1.05)
Walking around after dark	-0.014 (0.075)	0.110 [*] (0.043)	0.48 [*] (0.24, 0.98)	0.81 ^b (0.64, 1.03)
Problems with dogs	-0.112 (0.076)	0.054 (0.041)	0.51 ^b (0.23, 1.14)	1.11 (0.84, 1.47)
Noise from traffic or other homes	0.039 (0.081)	0.087 (0.047)	0.64 (0.31, 1.31)	0.88 (0.65, 1.20)
Lack of entertainment	0.045 (0.089)	0.082 (0.044)	1.26 (0.59, 2.71)	0.96 (0.70, 1.31)
Traffic and road safety problems	0.098 (0.082)	0.022 (0.049)	0.37 ^{**} (0.18, 0.73)	0.90 (0.64, 1.27)
Lack of places to shop	-0.002 (0.074)	0.103 [*] (0.043)	0.49 ^b (0.24, 1.02)	0.78 (0.57, 1.09)
Vandalism	0.015 (0.086)	0.050 (0.047)	0.60 (0.28, 1.29)	1.25 (0.93, 1.68)
Disturbances by youngsters or neighbors	0.058 (0.075)	0.070 (0.047)	0.56 ^b (0.29, 1.11)	0.95 (0.68, 1.34)

Note: Neighborhood conditions were dichotomized to represent "some problem/serious problem" and "not a problem," with the latter as the reference group.

^aModels were adjusted for age, education, income, employment, marital status, children in the home, and the number of years living in the neighborhood.

^bp<0.10

* p<0.05

** p<0.01