

Intrapersonal and Environmental Barriers to Physical Activity Among Blacks and Latinos

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ABSTRACT

Objective: To understand perceived barriers and facilitators to physical activity (PA) among at-risk African American and Hispanic adolescents and adults in a low-income community.

Design: Qualitative research was conducted in 2014–2015 using focus groups and a sociodemographic survey.

Setting: Three high schools in South Los Angeles, California.

Participants: Eight high school-aged adolescent focus groups (n = 64) and 8 adult focus groups (n = 47).

Phenomenon of Interest: Perceived barriers and facilitators to PA among predominantly obese and overweight African American and Hispanic adolescents and adults.

Analysis: Groups were audio recorded, transcribed, coded, and analyzed using an inductive approach.

Results: Participants reported that PA resources were available on school campuses (eg, sports teams) and in the community (eg, sidewalks, local parks, fitness classes). Key barriers to PA were intrapersonal (lack of motivation and time constraints) and environmental (safety concerns), whereas facilitators included interpersonal factors (social support). Participants provided valuable insights, including recommendations to increase noncompetitive programs at schools, develop shared-use agreements, and address safety concerns at local parks and public recreational spaces.

Conclusions and Implications: The findings suggest that future efforts to promote PA among at-risk minority groups should address intrapersonal and social environmental factors. Community-based programmatic and policy recommendations are provided.

Key Words: physical activity, barriers, African American, Hispanic, qualitative research (*J Nutr Educ Behav.* 2019;51:478–485.)

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INTRODUCTION

African American (AA) and Hispanic groups have disproportionately higher obesity rates compared to other racial/ethnic groups in the United States.¹⁻³ Between 2011 and 2012, 76.2% of AA and 77.9% of Hispanics were overweight or obese, compared to 67.2% of non-Hispanic white adults. Obesity/overweight disparities also exist among minority adolescents (12 to 19 years), and rates are significantly higher among

AA and Hispanic adolescents (39.8% and 38.1%, respectively) than non-Hispanic whites (31.2%).⁴ Physical inactivity levels are also higher among these groups⁵ and likely contribute to disparities. Addressing obesity disparities is of importance because excess weight is associated with poor physical⁶⁻¹⁰ and mental health^{11,12} outcomes.

A recent study examining the relationship between place and chronic health in the 500 largest US cities

found that places with higher concentrations of low-income, minority populations report higher obesity prevalence rates.¹³ The built and social environment influences health and behavior,^{14,15} and community-level obesity disparities may exist due to existing inequalities in the availability of healthy food or physical activity (PA) resources. For example, PA-promoting facilities and resources are often less available in low-income minority neighborhoods compared to higher-income neighborhoods.^{16,17} Inequalities in other community characteristics may also contribute, such as the walkability/bikeability of a neighborhood or safety.^{16,18-20}

Perceived barriers to PA among adolescents include lack of motivation,²¹⁻²³ lack of time,^{22,24-26} lack of awareness of existing PA facilities or programs,²³ lack of transportation,²³ opportunities to engage in sedentary behavior (eg, media use),^{21,27} lack of access to recreational facilities,^{21-23,27,28} and neighborhood safety concerns.²³⁻²⁸ Similarly,

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perceived barriers among adults include lack of motivation,^{21,23,29-31} lack of time,^{23,24,26,27,29-32} lack of awareness of existing facilities or programs,²³ lack of access to recreational facilities,^{21,23,33} and neighborhood safety concerns.^{23-25,29-31,33,34} Adults also report being concerned about the affordability and cost of available PA options.^{22-24,29-31,33} Additional research is needed on perceptions of barriers and facilitators to PA among at-risk, low-income racial/ethnic minority individuals to inform practice and policy.^{25,28,29,34-37} Existing measures of parks and recreation spaces may not reflect these perspectives and could be improved.^{38,39}

The purpose of this qualitative study was to explore barriers and facilitators to PA among high school-aged AA and Latino adolescents and adults in South Los Angeles, California. These perspectives can improve the understanding of the relationship between socioecological domains and PA behavior in underserved communities. Understanding existing barriers and facilitators is important for designing and implementing effective programmatic, environmental, and policy interventions to reduce obesity disparities.

METHODS

Setting, Sample Selection, and Recruitment

Focus groups were used to elicit data on perceived barriers and facilitators to PA among minority adolescents and adults. Eligible participants consisted of high school students attending one of 3 large public high schools in South Los Angeles, California and adults who reported living in South Los Angeles. South Los Angeles was selected given the relatively high obesity and overweight prevalence rates—an estimated 38.9% of adults are obese and 46% of adolescents (12-17 years) are overweight or obese.⁴⁰ A majority of residents in the community identify as either Hispanic (56.2%) or AA (33.3%). The specific schools selected are located in 3 zip codes with a combined poverty rate of 23.9% (ie, percentage of adults who live in households < 100% of the Federal Poverty Level).⁴⁰

All participants were recruited using a convenience sampling strategy. A multitiered strategy was used to recruit adult participants, which included: 1) posting flyers in English and Spanish with a phone number and e-mail in local stores located within a 1-mile radius of each high school, and 2) distributing flyers and recruiting in person at community events held at the high schools or at nearby parks and recreational centers. Adolescents were recruited in collaboration with school staff who gave brief presentations in classrooms and handed out flyers and consent forms during free periods. High school-aged adolescents who were <18 years of age (age range: 14-18 years) provided written parental consent and assent. Adults (≥ 18 years) provided written consent prior to participation. The University of Southern California's Institutional Review Board approved all study procedures and data collection instruments.

Data Collection

Data sources consisted of a brief survey and a semi-structured focus group guide. Instruments were tailored for the adolescent and adult focus groups, respectively, and pilot tested with community residents and university students who provided input. The adult tools were also translated into Spanish (and back translated to assess quality) by bilingual research staff. Based on feedback from community partners, the focus group data was not linked to the survey data (ie, the survey was anonymous) to maintain respondent confidentiality and to promote honest survey responses.

Focus group guide questions were developed based on the study's research questions and existing literature. The guide contained open-ended questions related to active living behaviors and resources on campus and off campus, in addition to pedestrian and biking behaviors (refer to Table 1 for a list of themes and questions). The survey included sociodemographic and height/weight questions. Weight categories were calculated using self-reported data.⁴¹

All focus groups were completed during the academic year 2014–2015. Two moderators facilitated the groups and 1–3 trained observers took detailed notes on participants' body language/cues.^{42,43} Adolescent sessions were conducted in English, whereas adult sessions were conducted in either English or Spanish (based on respondents' preferences). Focus group sessions lasted 60 to 120 minutes and were held in classrooms at the schools to ensure privacy. Participants received a \$20 gift card and refreshments.

Data Analysis

Descriptive statistics were calculated from survey data. The recordings were transcribed verbatim and uploaded into the data analysis software NVivo (NVivo version 11, QSR International Pty Ltd., Los Angeles, CA, 2015). The initial codebook was based on the study's research questions and a literature review on barriers and facilitators to PA among AA and/or Hispanic populations in the US. The codebook included 5 primary themes (general barriers to PA, barriers to walk or bike, facilitators/motivators to PA, facilitators to walk or bike, recommendations for improvement) and 28 sub-themes.

Two trained research assistants pilot-coded the codebook and used a grounded theory approach to identify emergent themes.⁴⁴ The research assistants independently coded transcripts and subsequently addressed discrepancies.⁴⁵ All investigators discussed and reviewed the findings.

RESULTS

Sixteen focus groups were conducted across the 3 sites, including 8 focus groups with adolescents ($n = 64$; group size range = 4–11) and 8 with adults ($n = 47$; group size range = 2–12).

Sample Characteristics

Table 2 provides the sociodemographic characteristics of adolescent and adult participants. Adolescents were ages 14 to 19 years (mean = 16.3) and the majority was female (67.2%). A high percentage identified as Hispanic/Latino (59.4%) or AA (32.8%). A small percentage reported speaking

Table 1. Active Living Focus Group Guide Topics and Questions

Topics	Questions (Adolescents)	Questions (Adults)
On-campus behaviors and resources	What kinds of activities or programs are offered on-campus before or after-school to exercise? Do you participate in these programs? Why?	Do you ever use a nearby school before or after school or during the weekend to exercise? [<i>Prompt: like a sports program or running on the track?</i>] What types of activities do you do there? What do you think about the idea of keeping schools open for the community to use for exercise after regular school hours (before or after school or during the weekend)?
Off-campus behaviors and resources	What places or programs are available for you to exercise outside of school/in your community? How easy (or difficult) is it for someone to be physically active or exercise in your community? Why don't you exercise more than you currently do? How safe is it to walk or use nearby parks, playgrounds, or other places in your neighborhood? [<i>Prompt: How safe is it during the evening?</i>]	
Pedestrian and biking behaviors	Do you walk or ride your bike to school/in your community? Why? For those who walk or ride their bike to school/in their community, how is that experience? Do you like walking/biking to school/in your community? Why or why not? Why don't you walk or ride your bike to school/in your community? How safe is it for you to walk or bike to school/in your community?	

mostly/only Spanish at home (3.1%), indicating a high level of acculturation. Adolescents reported weights of an average of 149 pounds (SD = 39; range = 98–334). Nearly a third (n = 18) were overweight/obese based on self-reported data.

Adult participants were ages 20 to 70 years (mean = 47.2) and the majority was female (87.2%). A majority of adult participants said they were a

parent to a current student in grades K–12 (n = 30 or 63.8%). A high percentage identified as Hispanic/Latino (57.4%) or AA (38.3%). Unlike adolescents, about a quarter reported speaking mostly/only Spanish at home (25.5%). Adults reported a weight of an average of 187 pounds (SD = 44; range = 111–279). Nearly three quarters (72.3%) were overweight/obese based on self-reported data.

Availability of Physical Activity Opportunities: “I think you can find ways to exercise anywhere.”

A majority of participants reported that PA opportunities were available at the school campus (for adolescent high school students) or off campus in the community (for all residents). Most adolescents reported having access to afterschool sports programs. Nearly all adolescents (92.2% or n = 59) also said it was easy to exercise off campus, describing local facilities and the architecture of the built environment. One adolescent gave examples saying, “The park, your basic block, I think you can find ways to exercise anywhere,” while another said, “You can ride your bike up and down the street.”

A majority of adults (57.4% or n = 27) similarly reported there were “lots” of places to exercise and “all kinds of programs” in the community. Local PA facilities consisted of neighborhood parks, public exercise machines, recreation centers, and gyms (eg, YMCA). Adults also mentioned free exercise programs for residents, saying they were highly attractive.

Although adolescent and adult respondents expressed awareness of these PA opportunities in the

Table 2. Sociodemographic Characteristics of Focus Group Participants (n = 64 adolescents; n = 47 adults), South Los Angeles, California, 2014–2015

Characteristic	Adolescents n (%)	Adults n (%)
Age mean years (SD)	16.3 (1.3)	47.2 (11.4)
Gender		
Female	43 (67.2)	41 (87.2)
Male	21 (32.8)	5 (10.6)
Race/ethnicity		
African American	21 (32.8)	18 (38.3)
Hispanic/Latino	38 (59.4)	27 (57.4)
White	1 (1.6)	1 (2.1)
Native Hawaiian/Pacific Islander	1 (1.6)	—
Multi-Ethnic	2 (3.1)	—
Language spoken at home		
English (only or mostly)	27 (42.2)	19 (40.4)
Both English and Spanish	35 (54.7)	14 (29.8)
Spanish (only or mostly)	2 (3.1)	12 (25.5)

Note: Rows may not add up to 100 for certain characteristics if respondent(s) did not answer a question.

community, utilization of these resources and programs was moderate among adults and low among adolescents. One adolescent phrased it as, “They do like Zumba fitness at the park and stuff like that but I don’t be doing that.”

Availability was constrained by issues of affordability among adults. While some adults said they preferred to exercise in private facilities (instead of public facilities), the cost was “too much,” or “You just can’t afford them.” Thus, availability was limited even though the facilities were accessible: “For me, to go to the gym, since you have to pay, I can’t afford to.”

Main barriers and facilitators to PA as well as recommendations for improvement, are provided below and are organized using the socioecological framework and related levels of influence (intrapersonal, interpersonal, organizational, community, and public policy).⁴⁶

Intrapersonal Barriers (Lack of Motivation and Time

Constraints): “*If you have the time for it, like it’s hard if you are a lazy person.*”

While many believed PA opportunities were readily available, several adolescents and adults said lack of motivation was a key barrier. Nearly half of adolescents (n = 31) said they lacked motivation to exercise. An adolescent summed this perspective by stating, “[exercise is] incredibly easy. I just think it depends on [the person].” Among adults, lack of motivation (and laziness) was also the most frequently mentioned barrier to PA (17%, or n = 8). An adult elaborated and said it was difficult to exercise when attractive, sedentary options were available: “I think it depends on the person. A lot of times you don’t want to get up and go out of the house. Sometimes, I’d rather sit and watch TV.”

Lack of time was another barrier to PA mentioned by nearly a third of adolescents (n = 19) who said they did not have enough time to exercise due to excessive homework or family responsibilities. Six adults also mentioned lack of time as a barrier to PA.

Some of these adults said the challenge of taking care of their children coupled with their work schedule left them with little to no energy or time to exercise, as illustrated by the following quote, “If you are a parent, you are tired. You have to go to work and school.”

Social Environmental

Community Barriers (Safety Concerns): “*It’s unfortunate that these kids is scared. They would rather be in the house playing video games than going to the park because they don’t feel safe.*”

Safety concerns were a predominant barrier to mobility mentioned in all of the groups. A majority of adolescents and adults reported feeling unsafe using local parks or walking/biking in their neighborhood. Several concerns were mentioned, including gang activity and perceived loitering at local parks. One adolescent said, “there’s no safe park” due to gang activity. One adult said most parks were claimed gang territories: “Every park is tied to some gang. This park belongs to this gang” and another adult commented that she no longer let her daughter frequent the neighborhood park, fearing her daughter would be at “the wrong place at the wrong time.” Five adults also expressed concern about the growing homeless population and their presence at parks. One adult said, “Now we have transients sleeping there . . . I go pick [my daughter] up, and 10 guys sleeping there. It makes you uncomfortable.”

Adolescent and adult respondents said the neighborhood was “very dangerous” and described it as “a battle zone.” Over half of adolescents (59.4% or n = 38) and nearly half of adults (44.7% or n = 21) described their neighborhood as being very or somewhat unsafe. One adolescent described the social disorder in her housing complex saying, “It’s hard. Where I live, there are gang bangers in the apartments.” Specific violent events were described in detail. An adult said she would drive to parks outside of South Los Angeles as a result of specific incidences: “You have to drive to these places, we have

a park five blocks away but it is not safe. A disabled teenager got shot there so I will not send my kids there.” Perceived crime and the threat of violence contributed to a preference to remain indoors. One adult said a shooting spree informed her decision to keep her child home, “The other day, I kept my daughter indoors because there were shootings. Gun shooting over who owns what street.”

Adolescent participants generally reported feeling unsafe walking or biking for personal safety concerns. Female adolescents (12.5% or n = 8) from 2 schools described feeling uncomfortable due to unwanted attention and perceived threats of sexual harassment or physical harm. One female said, “Like they follow you and sometimes you don’t want to go home because you don’t want them to know where you live.” A male adolescent sympathized saying, “You see cars following people. My friends, the girls, they have trauma or some bad experiences and you are always with that worry.” Others mentioned the threat of a motor vehicle accident. Some had witnessed car accidents, which dissuaded them from walking or biking.

Adults who were parents shared these concerns and did not allow their children to walk to school. In the words of one adult, “The schools are in front of mine, but there are a lot of people who go around robbing or assaulting you.” Among adults, stray dogs were also mentioned as a safety concern.

Interpersonal Facilitator (Social Support): “*You need to be with somebody.*”

Social support, either as a source of motivation or to address safety concerns, was a key facilitator to walking. Several adults described walking with their families in their neighborhood as an enjoyable activity. One said, “Our kids and I will go and walk . . . We would eat dinner, walk around for an hour.” Adults from 3 groups also stated the importance of being accompanied by a family member or friend to address safety concerns. One woman said she began walking

in groups after being harassed. She said, “Nothing happened to me, but I was very scared. It’s not safe here. You need to walk with 2–3 people.” Another adult described how social support helped address safety concerns, “We feel safe when we are walking in a group. When we have a friend.” Further, adults stressed the importance of having siblings/friends accompany their children while they walked or biked to promote their safety.

Organizational and Policy Recommendations (Shared-Use Facilities, Increased Security and Funding): “If there were more safety, I would like to use it. Some use that is good for the school. If there’s no security, then no.”

Adult respondents expressed a high level of interest in shared-use facilities (ie, opening schools to the public outside of school hours) to promote PA. Some were familiar with a local shared-use campus, “[name of school], our rival, they are open for the community, as opposed to our school. You can go walk and run. Our school is closed.” Perceived benefits from offering programs on shared-use campuses included addressing obesity among children and deterring gang activity. In the words of one adult, “I think that’d be a great idea, it might even deter some of the gangs by giving kids something to do, something positive.”

Support for shared-use facilities was contingent on having sufficient security and funding. An adult described safety concerns by saying, “Are we going to have security if the vandals do come? Unfortunately, they are coming.” Others pointed to a local university as a model: “Even though there have been crimes at the school I always feel safe. We go at night, they have security at every corner now.”

Recommendations to improve safety at parks consisted of increasing security, policing, lighting, and programming at parks. Increased policing and lighting at one park were said to have improved safety by reducing gang activity. Some respondents did not like that police presence was often temporary and spurred by a crime or

violent incident. One adult described this phenomenon: “When someone got killed, they finally put lights out there. If someone gets hit, they’ll put lights up.” Sufficient funding was also mentioned to deter other types of social disorder. One adult said wealthier neighborhoods were exempt from tagging and vandalism due to wealth and resources,

They have money. Money speaks for itself. They can pay them to keep it clean. They keep the dollars on the table. They pass their laws. We don’t have that.

DISCUSSION

This qualitative study identifies important barriers and facilitators to PA in a low-income, predominantly AA and Latino community. Unlike other studies that identify lack of PA resources as a barrier among low-income communities,²⁵ respondents perceived PA facilities and opportunities to be readily available. While students mentioned on-campus sports programs—thus highlighting the value of increasing school-based PA opportunities and resources for this group—adults pointed to off-campus PA facilities. Among the latter, cost and affordability of private PA facilities were barriers to access. Increasing awareness of free or low-cost exercise programs and resources (eg, Zumba classes, reduced gym membership costs) may help address cost barriers.

This study identified 2 important intrapersonal barriers to PA among adults and high school-aged adolescents, including lack of motivation and time constraints, which is consistent with findings from other studies.^{21–26,29–31,47} Respondents identified a variety of safety concerns in the social environment, which may contribute to disparities in utilization of PA facilities between high and low socioeconomic status communities. Participants said gang activity at local parks and knowledge of violent incidences deterred PA in public spaces. Adults further described restricting their children’s mobility in the neighborhood due to these concerns. These findings related to safety concerns are similar to those

from studies conducted with low-income racial/ethnic minorities elsewhere.^{23,25,26,29,31,34,37,48} The findings are also consistent with results from a study that found gun-related violence was associated with a reduction in observed park use among seniors and adults and lower self-reported park use.⁴⁹

Other important safety concerns that emerged include perceived threats of physical harm or sexual assault (among female adolescents) and motor vehicle accidents. It is possible that *perceived safety* is associated with reduced PA and increased weight among youth. A recent longitudinal study examining perceived safety and walkability in Australia found these factors to be related after accounting for built and social environment factors. More research is needed to examine cognitive and affective perceptions of safety and PA behaviors in the US.⁵⁰

Based on elicited narratives, a key facilitator promoting PA consists of social support from family members and friends, which can be particularly important for women.³⁷ Several adolescent and adult respondents mentioned walking in pairs or groups, and adults spoke of the importance of having someone accompany their children. In our study, the mechanism of social support (eg, a walking partner) appeared to help individuals overcome safety concerns rather than social influence, which has been found to be a key PA motivator in another study with low-income racial/ethnic minorities.²⁵

Adults were generally supportive of increasing community access to school physical activity facilities to increase PA levels. These insights are valuable because prior research on shared-use agreements has not included community perspectives. An important caveat for support for shared-use mechanisms consists of providing on-campus security to address potential safety or vandalism concerns. Adults also recommend providing programming for adolescents. Other recommendations consisted of providing security, lighting, and programming at off-campus PA resources, such as parks, to prevent perceived social disorder or violence.

Limitations

Given the use of a convenience sampling strategy, the findings are not generalizable to the broader school or community population. A second limitation is the majority female adult sample, which made it difficult to analyze results by gender. Further, self-reported data (height, weight, and age) used to calculate obesity rates is subject to bias. Despite these limitations, strengths of this study include the recruitment of underrepresented at-risk minorities and the in-depth exploration of barriers to PA in a low-income community.

IMPLICATIONS FOR RESEARCH AND PRACTICE

Recommendations for research and practice are provided below for adolescents and adults, respectively, and may be relevant to similar urban communities elsewhere in the US.

Among adolescents, increasing the availability of noncompetitive, on-campus PA opportunities may help reach students who are not involved in afterschool sports programs. Programs such as kick-boxing or hip-hop dance classes may help overcome identified motivation barriers,⁵¹ and marketing after-school PA programs as fun and making them more appealing (eg, by playing music while exercising) may encourage at-risk adolescents to participate.^{22,25,26,52,53} Another potential strategy is to integrate nutrition education lessons into sports or afterschool PA programs to expand the reach of out-of-school nutrition education on adolescents and simultaneously improve PA and dietary behaviors.

Public health practitioners could build on the recommended strategies identified in this study to promote walking and increase PA in low-income communities. Examples include safe routes to school programs⁵⁴ or developing walking or biking clubs for older adolescents. Peer- and family-focused walking interventions leveraging social support to address safety concerns may also be effective toward increasing PA levels.^{25,34,55,56} Moreover, developing shared-use (or joint-use) agreements in low-income communities is

a promising means of expanding PA opportunities and has previously been shown to increase moderate to vigorous PA levels in under-resourced communities.⁵⁷ The design options vary, and several facilities could be made accessible to community members, including gyms, running tracks, fields, courts, and fitness centers during out-of-school time.⁵⁴ It may also be beneficial to open the campus to provide nutritional resources such as hosting a Farmers' Market, developing community-based gardens, or offering family-based obesity-reduction classes on school campuses using this policy mechanism. Addressing safety concerns in the agreement and providing programming will be critical toward ensuring the success of these initiatives in low-income communities, because these were major concerns expressed by adults in our study.

Some of the recommendations for improving community safety are similar to those found in other qualitative studies conducted with AA residents, and consist of increasing law enforcement and security in public PA facilities and spaces.^{34,48} Interventions to ameliorate perceived safety issues may include employing safety personnel at busy intersections near schools and parks or promoting graffiti and vandalism clean-up programs. Community advocacy efforts to improve conditions in the built environment (eg, lighting) may be another means of addressing these types of concerns³¹ and should be tested.

Additional research is needed to examine the types of safety concerns that impede specific PA behaviors in low-income urban communities and inform the development of PA tools/measures³⁸ and interventions that reflect the experience of these communities. For example, evidence from this study suggests that respondents' perceptions of pedestrian and bike safety around the school may deter walking/biking to school, whereas safety threats from gangs may deter access to public recreational settings such as parks. A closer examination of perceived safety threats and specific behaviors in low-income minority communities should be assessed using theories of environmental stress and

neighborhood disorder, which account for chronic exposure to environmental stressors and physical and social facets of the neighborhood, respectively.⁵⁸

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REFERENCES

1. Wang Y, Beydoun MA. The obesity epidemic in the United States—gender, age, socioeconomic, racial/ethnic, and geographic characteristics: a systematic review and meta-regression analysis. *Epidemiol Rev*. 2007;29:6–28.
2. Kann L, McManus T, Harris WA, et al. Youth risk behavior surveillance – United States, 2015. *MMWR Surveill Summ*. 2016;65:1–174.
3. Ogden CL, Carroll MD, Lawman HG, et al. Trends in obesity prevalence among children and adolescents in the United States, 1988–1994 through 2013–2014. *JAMA*. 2016;315:2292–2299.
4. Ogden CL, Carroll MD, Kit BK, Flegal KM. Prevalence of childhood and adult obesity in the United States, 2011–2012. *JAMA*. 2014;311:806–814.
5. U.S. Department of Health and Human Services. *The Surgeon General's Vision for a Healthy and Fit Nation*. Rockville, MD: U.S. Department of Health and

- Human Services, Office of the Surgeon General; 2010.
6. Guh DP, Zhang W, Bansback N, Amarsi Z, Birmingham CL, Anis AH. The incidence of co-morbidities related to obesity and overweight: a systematic review and meta-analysis. *BMC Public Health*. 2009;9:88.
 7. Bogers RP, Bemelmans WJ, Hoo-genveen RT, et al. Association of overweight with increased risk of coronary heart disease partly independent of blood pressure and cholesterol levels: a meta-analysis of 21 cohort studies including more than 300 000 persons. *Arch Intern Med*. 2007;167:1720-1728.
 8. McGee DL. Body mass index and mortality: a meta-analysis based on person-level data from twenty-six observational studies. *Ann Epidemiol*. 2005;15:87-97.
 9. Beuther DA, Sutherland ER. Overweight, obesity, and incident asthma: a meta-analysis of prospective epidemiologic studies. *Am J Respir Crit Care Med*. 2007;175:661-666.
 10. Anandacoomarasamy A, Caterson I, Sambrook P, Franssen M, March L. The impact of obesity on the musculoskeletal system. *Int J Obes*. 2008;32:211-222.
 11. de Wit L, Luppino F, van Straten A, Penninx B, Zitman F, Cuijpers P. Depression and obesity: a meta-analysis of community-based studies. *Psychiatry Res*. 2010;178:230-235.
 12. American Academy of Pediatrics. American Academy of Pediatrics: children, adolescents, and television. *Pediatrics*. 2001;107:423-426.
 13. Fitzpatrick KM, Shi X, Willis D, Niemeier J. Obesity and place: chronic disease in the 500 largest U.S. cities. *Obes Res Clin Pract*. 2018;12:421-425.
 14. Wong SS. Community-based healthy living medicine, with a focus on K-12, physical education, and nutrition. *Prog Cardiovasc Dis*. 2017;60:450-455.
 15. Sallis JF, Floyd MF, Rodriguez DA, Saelens BE. Role of built environments in physical activity, obesity, and cardiovascular disease. *Circulation*. 2012;125:729-737.
 16. Gordon-Larsen P, Nelson MC, Page P, Popkin BM. Inequality in the built environment underlies key health disparities in physical activity and obesity. *Pediatrics*. 2006;117:417-424.
 17. Powell LM, Slater S, Chaloupka FJ, Harper D. Availability of physical activity-related facilities and neighborhood demographic and socioeconomic characteristics: a national study. *Am J Public Health*. 2006;96:1676-1680.
 18. US Department of Health and Human Services. *Step It Up: The Surgeon General's Call to Action to Promote Walking and Walkable Communities*. Washington, DC: US Department of Health and Human Services, Office of the Surgeon General; 2015.
 19. Brown BB, Smith KR, Hanson H, Fan JX, Kowaleski-Jones L, Zick CD. Neighborhood design for walking and biking. *Am J Prev Med*. 2013;44:231-238.
 20. Cohen DA, Ashwood JS, Scott MM, et al. Public parks and physical activity among adolescent girls. *Pediatrics*. 2006;118:e1381-e1389.
 21. Goh YY, Bogart LM, Sipple-Asher BK, et al. Using community-based participatory research to identify potential interventions to overcome barriers to adolescents' healthy eating and physical activity. *J Behav Med*. 2009;32:491-502.
 22. Kubik MY, Lytle L, Fulkerson JA. Fruits, vegetables, and football: findings from focus groups with alternative high school students regarding eating and physical activity. *J Adolesc Health*. 2005;36:494-500.
 23. Finkelstein DM, Petersen DM, Schottenfeld LS. Promoting children's physical activity in low-income communities in Colorado: what are the barriers and opportunities? *Prev Chronic Dis*. 2017;14:E134.
 24. Berge JM, Arikian A, Doherty WJ, Neumark-Sztainer D. Healthful eating and physical activity in the home environment: results from multifamily focus groups. *J Nutr Educ Behav*. 2012;44:123-131.
 25. Bragg M, Tucker C, Kaye L, Desmond F. Motivators of and barriers to engaging in physical activity: perspective of low-income culturally diverse adolescents and adults. *Am J Health Educ*. 2009;40:146-154.
 26. Hannay J, Dudley R, Milan S, Leibovitz PK. Combining photovoice and focus groups: engaging Latina teens in community assessment. *Am J Prev Med*. 2013;44:S215-S224.
 27. Davison KK, Birch LL. Childhood overweight: a contextual model and recommendations for future research. *Obes Rev*. 2001;2:159-171.
 28. Ries AV, Voorhees CC, Gittelsohn J, Roche KM, Astone NM. Adolescents' perceptions of environmental influences on physical activity. *Am J Health Behav*. 2008;32:26-39.
 29. Baruth M, Sharpe PA, Parra-Medina D, Wilcox S. Perceived barriers to exercise and healthy eating among women from disadvantaged neighborhoods: results from a focus groups assessment. *Women Health*. 2014;54:336-353.
 30. Hoebeke R. Low-income women's perceived barriers to physical activity: focus group results. *Appl Nurs Res*. 2008;21:60-65.
 31. Martinez SM, Arredondo EM, Perez G, Baquero B. Individual, social, and environmental barriers to and facilitators of physical activity among Latinas living in San Diego County: focus group results. *Fam Community Health*. 2009;32:22-33.
 32. Cowgill BO, Chung PJ, Thompson LR, et al. Parents' views on engaging families of middle school students in obesity prevention and control in a multiethnic population. *Prev Chronic Dis*. 2014;11:E54.
 33. Sonnevile KR, La Pelle N, Taveras EM, Gillman MW, Prosser LA. Economic and other barriers to adopting recommendations to prevent childhood obesity: results of a focus group study with parents. *BMC Pediatr*. 2009;9:81.
 34. Child ST, Kaczynski AT, Fair ML, et al. 'We need a safe, walkable way to connect our sisters and brothers': a qualitative study of opportunities and challenges for neighborhood-based physical activity among residents of low-income African-American communities. *Ethn Health*. 2017;1-12.
 35. MacMillan F, George ES, Feng X, et al. Do natural experiments of changes in neighborhood built environment impact physical activity and diet? a systematic review. *Int J Environ Res Public Health*. 2018;15:217.
 36. McKinnon RA, Orleans CT, Kumanyika SK, et al. Considerations for an obesity policy research agenda. *Am J Prev Med*. 2009;36:351-357.
 37. Mama SK, McCurdy SA, Evans AE, Thompson DI, Diamond PM, Lee RE. Using community insight to understand physical activity adoption in overweight and obese African American and Hispanic women: a qualitative study. *Health Educ Behav*. 2015;42:321-328.
 38. Floyd MF, Taylor WC, Whitt-Glover M. Measurement of park and recreation environments that support physical activity in low-income communities of color: highlights of challenges and recommendations. *Am J Prev Med*. 2009;36:S156-S160.
 39. Sallis JF, Story M, Lou D. Study designs and analytic strategies for environmental

- and policy research on obesity, physical activity, and diet: recommendations from a meeting of experts. *Am J Prev Med.* 2009;36:S72-S77.
40. UCLA Center for Health Policy Research. AskCHIS Neighborhood Edition. <http://askchisne.ucla.edu>. Accessed October 25, 2018.
 41. Kuczmarski RJ, Ogden CL, Guo SS, et al. 2000 CDC growth charts for the United States: methods and development. *Vital Health Stat 11.* 2002(246): 1-190.
 42. Carey MA, Smith MW. Capturing the group effect in focus groups: a special concern in analysis. *Qual Health Res.* 1994;4:123-127.
 43. Stewart DW, Shamdasani PN. *Focus Groups: Theory and Practice.* Thousand Oaks, CA: Sage Publications; 1990.
 44. Corbin J, Strauss A. *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory.* Thousand Oaks, CA: Sage Publications; 2014.
 45. Miles MB, Huberman AM. *Qualitative Data Analysis: An Expanded Sourcebook.* 2nd ed. Thousand Oaks, CA: Sage Publications; 1994.
 46. McLeroy KR, Bibeau D, Steckler A, Glanz K. An ecological perspective on health promotion programs. *Health Educ Q.* 1988;15:351-377.
 47. Somerset S, Hoare DJ. Barriers to voluntary participation in sport for children: a systematic review. *BMC Pediatr.* 2018;18:47.
 48. Griffin SF, Wilson DK, Wilcox S, Buck J, Ainsworth BE. Physical activity influences in a disadvantaged African American community and the communities' proposed solutions. *Health Promot Pract.* 2008;9:180-190.
 49. Han B, Cohen DA, Derosé KP, Li J, Williamson S. Violent crime and park use in low-income urban neighborhoods. *Am J Prev Med.* 2018;54:352-358.
 50. Foster S, Hooper P, Knuiman M, Christian H, Bull F, Giles-Corti B. Safe RESIDential Environments? A longitudinal analysis of the influence of crime-related safety on walking. *Int J Behav Nutr Phys Act.* 2016;13:22.
 51. Power TG, Bindler RC, Goetz S, Darratha KB. Obesity prevention in early adolescence: student, parent, and teacher views. *J Sch Health.* 2010;80:13-19.
 52. O'Dea JA. Why do kids eat healthful food? Perceived benefits of and barriers to healthful eating and physical activity among children and adolescents. *J Am Diet Assoc.* 2003;103:497-501.
 53. Wilson DK, Williams J, Evans A, Mixon G, Rheume C. Brief report: a qualitative study of gender preferences and motivational factors for physical activity in underserved adolescents. *J Pediatr Psychol.* 2005;30:293-297.
 54. Centers for Disease Control and Prevention (CDC). School health guidelines to promote healthy eating and physical activity. *MMWR Recomm Rep.* 2011;60:1-76.
 55. Child S, Kaczynski AT, Moore S. Meeting physical activity guidelines: the role of personal networks among residents of low-income communities. *Am J Prev Med.* 2017;53:385-391.
 56. McNeill LH, Kreuter MW, Subramanian SV. Social environment and physical activity: a review of concepts and evidence. *Soc Sci Med.* 2006;63:1011-1022.
 57. Laffeur M, Gonzalez E, Schwarte L, et al. Increasing physical activity in under-resourced communities through school-based, joint-use agreements, Los Angeles County, 2010-2012. *Prev Chronic Dis.* 2013;10:E89.
 58. King AC, Stokols D, Talen E, Brassington GS, Killingsworth R. Theoretical approaches to the promotion of physical activity: forging a transdisciplinary paradigm. *Am J Prev Med.* 2002;23:15-25.

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