INTERVENTION TABLE 18

Safety Interpersonal

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
United States						
Cohen, McKenzie (2007) California	Perceptions of park safety ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Access to public parks and park characteristics *Complex:* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 1318 adults including 713 park users and 605 neighborhood residents living within 2 miles of 8 Los Angeles parks (4 designated to receive significant improvements, 4 not to be improved within the next few years) ***PRIMARY OUTCOME:*** Total energy expended (METs), leisure exercising, and physical activity and urban park use ***MEASURES:*** 1. System for Observing Play and Recreation in Communities [SOPARC] (physical activity in the park, presence of natural light [after dark], usability/accessibility of the park, availability of supervision or equipment, presence of organized activities) 2. Interviews with park users and area residents (frequency of park visits and exercise, perceptions of park safety, proximity to park, park characteristics, and performance of park staff) 3. 2000 US Census data (park census tracts, demographics) ***DATA COLLECTION:*** The Multi-Cultural Area Health Education Center and the Los Angeles City Department of Recreation and Parks assisted with questionnaire development and data collection. Observations of the parks were completed between December 2003 and May 2004. Observations were conducted by two observers in all target areas during four 1-hour time periods. The authors conducted face-to-face interviews in either English or Spanish with both park users and neighborhood residents. Park survey participants were selected from the busiest and least-busy target areas. Half in each target area were selected because they were sedentary and half because they were active. ***LIMITATIONS:*** Observations and interviews were completed for only 56 days and these days may not be representative of total park use and physical activity, nor may they capture secular variations; cross-sectional design limits ability to determine causality; survey data was self-reported	Adults On average, the neighborhoods surrounding the parks were 63.5% Latino, 31.0% African American. 1.8% White and 30.4% lower-income ***ELIGIBILITY:*** Only respondents aged 18 years of age or older were eligible to complete the interviews. ***EXPOSURE/ PARTICIPATION:*** Residents within 2 miles of the park and all park users for the 8 Los Angeles parks. An average of 159,125 individuals live within the 2-mile radius.	***LEAD AGENCY:*** The research team was from the RAND Corporation and San Diego State University. ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** National Institute of Environmental Health Services ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. Younger age, being male, and living within 1 mile of a park were positively associated with the frequency of leisure exercise (incident rate ratio= 1.38, 95%CI=1.04-1.84, p<0.001) and park use (incident rate ratio=4.21, 95%CI=2.54-7.00, p<0.001). 2. More residents living within 0.5 miles of the park reported leisurely exercising 5 or more times per week more often than those living more than 1 mile away (49% vs. 35%, p<0.01). 3. People who lived within 1 mile of the park were 4 times as likely to visit the park once a week or more and had an average of 38% more exercise sessions per week than those living further away. 4. On average, more people were present during supervised activities (e.g., sports competitions) than unstructured activities (49 vs. 6 people; p<0.006). The correlation between the percent of areas being supervised and the total energy expended (METs) estimated for each park was 0.74 (p<0.04). ***PARK USE:*** 5. Among observed park users, 43% lived within 0.25 mile, and another 21% lived between 0.25 and 0.5 mile of the park (p<0.001). Only 13% of park users lived more than 1 mile from the park. 6. Of local residents, 38% living more than 1 mile away were infrequent park visitors, compared with 19% of those living less than 0.5 mile away (p<0.001). 7. Nearly all respondents (98%) living near the 2 parks with the lowest percentage of households in poverty indicated that they felt the parks were safe, compared with between 50% and 74% for parks in neighborhoods with over 40% of households in poverty. 8. Concerns about park safety were not associated with either park use or frequency of exercise.

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Brownson, Housemann (2000) Missouri	Perceptions of safety while using trails ***OTHER INTERVENTION COMPONENTS:*** *Multi-component* 1. Availability of places to walk and be physically active, and barriers and enablers for trails and use of trails *Complex* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 1269 individuals (≥ 18 years) from 17 rural communities in 12 counties in southeast Missouri ***PRIMARY OUTCOME:*** Walking behavior ***MEASURES:*** 1. Risk Factor Survey (walking behavior in the past month, frequency and duration of weekly walking, access to and use of walking trails and indoor exercise facilities, behavioral changes in exercise because of trail use, perceptions of safety when using trails, knowledge and awareness of the trails, preferred aspects of the trails, demographic data) ***DATA COLLECTION:*** From April through December 1998, the research team conducted a two-staged, random-digit-dialed set of telephone interviews. The survey was constructed using methods from the Missouri Behavioral Risk Factor Surveillance System (BRFSS), other surveys, and items developed specifically for this project. ***LIMITATIONS:*** Data was self-reported; items other than the physical activity questions on the BRFSS have not been tested for reliability; the information on access to walking trails is general and does not include data on why people who had access did not use the trails; cross-sectional study design	Adults 90.8% Caucasian, 7.8% African American, 1.4% were other; 34.5% male (evaluation sample) Rural, high rates of poverty, medically underserved, lower educational levels (targeted sample) ***ELIGIBILITY:*** Eight communities were chosen specifically because of the existence of a walking trail in the local area. All communities were part of ongoing community-based interventions (including policy and environment change). ***EXPOSURE/ PARTICIPATION:*** 280,000 residents in 12 counties	***LEAD AGENCY:*** Research team was from the Missouri Department of Health, the Prevention Research Center at Saint Louis University, Centers for Disease Control and Prevention, Stanford University, and San Diego State University (evaluation) ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** Centers for Disease Control and Prevention (Centers for Research and Demonstration of Health Promotion and Disease Prevention), the Community Prevention Study of the National Institutes of Health Women's Health Initiative, the Cardiovascular Risk Reduction Targeted Health Initiative of the Missouri Department of Health ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. Persons who were regular walkers were more likely to have access to indoor exercise facilities (prevalence odds ratio=1.3, 95%CI=1.0-1.7). 2. Persons using longer trails (>0.25 miles) were more likely to report an increase in physical activity (0.25 to 0.50 miles in length: prevalence odds ratio= 2.8, 95%CI=1.1-7.2; >0.50 miles in length: prevalence odds ratio= 13.2, 95%CI= 1.4-124.6). 3. Travel distance to walking trails appeared to have a slight perceived effect on walking. Those travelling 5-10 miles (prevalence odds ratio= 0.8, 95%CI= 0.4-1.9), 11-29 miles (prevalence odds ratio=0.8, 95%CI=0.3-2.1), or >30 miles to a trail (prevalence odds ratio=0.7, 95%CI=0.3-1.8) had a reduced likelihood of increasing their walking. 4. Among persons who had used the trails, 55.2% reported that they had increased their amount of walking since they began using the trail. 5. Women were more than twice as likely (prevalence odds ratio= 2.1, 95%CI=1-4.4) as men to report that they had increased the amount of walking since they began using the trails. 6. Lower-income groups were more likely to have increased walking due to trail use than were higher income persons ($15-35K: prevalence odds ratio= 0.9, 95%CI=0.4-2; ≥ $35K: prevalence odds ratio= 0.4, 95%CI= 0.2-1). 7. African Americans were more likely to have increased walking due to trail use (prevalence odds ratio= 1.9, 95%CI= 0.5-7.7) than were Caucasians. 8. Among persons with access to walking trails, 38.8% had used the trails. 9. Concerns about safety did not appear to be a barrier to use, as 86.9% of trail users felt very safe when using trails.

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Sanderson, Foushee (2003) Alabama	Perceptions of safety from crime ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Presence or absence of sidewalks and lighting 2. Access to places for physical activity and access to places within walking distance 3. Perceptions of traffic safety *Complex:* 1. Neighborhood social support and self-efficacy	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 567 respondents in Greene, Lowndes, and Wilcox counties in Alabama ***PRIMARY OUTCOME:*** Physical activity ***MEASURES:*** 1. Survey (sociodemographic information, general health, physical activity, and personal, social environment, safety [traffic, crime, dogs, lighting], lack of sidewalks, places within walking distance, places for physical activity) ***DATA COLLECTION:*** The University of Alabama at Birmingham's Survey Research Unit within the Center for Health Promotion conducted the telephone surveys. The study used a questionnaire developed and pilot tested through the Women's Cardiovascular Health Network Project. A higher social score indicated less negative factors influencing participation in physical activity. Open-ended questions were included to identify potential strategies for promoting physical activity within the target community. Women were grouped into three categories that described their physical activity pattern: (1) inactive (not engaging in any activities); (2) insufficient (not meeting recommendations for activities); and (3) meeting recommendations (engaging in moderate physical activity for at least 30 minutes for five times per week or vigorous activity for at least 20 minute for three times per week). Interclass correlation coefficients (ICCs) for the social issue scale ranged from 0.46 to 0.75, indicating a moderate agreement comparable to the range across all sites (0.42–0.68). Environmental variables include a composite score of distance to places to walk, safety from crime, street lighting, unattended dogs, presence of sidewalks, and traffic safety. ***LIMITATIONS:*** Causal inferences cannot be made by using a cross-sectional study; survey data was self-reported; the sample was limited to a very specific location as well as individual type and results may not be generalizable; walking was not distinguished from other types of physical activity	Rural, Female, Adults, 20-50 years old, 75-77% African American (evaluation sample) The data was collected from a predominately impoverished rural area. Education level from the evaluation sample was similar to the Alabama BRFSS demographic data for African-American women, however, income level was somewhat lower. ***ELIGIBILITY:*** Females 20-50 years old were eligible to participate. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** The research team was from the University of Alabama at Birmingham. ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** The test-retest reliability, specific to this study population was only examined on the social issue scale with 47 respondents. ***PROCESS EVALUATION:*** Not applicable	***RESOURCES:*** Not applicable ***FUNDING:*** Not reported ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. Researchers found no physical environmental variables that were significantly associated with comparison of either activity-level group. 2. Women reporting good lighting at night were less likely (OR=0.48, 95% CI= 0.27- 0.88) to report any physical activity. 3. Women meeting recommendations (n=221) compared to women who did not (n=346) were more than twice as likely to see people exercising in the neighborhood (87.2%, OR=2.02, CI=1.08-3.77) and to attend religious services (84.9%, OR=2.10, CI=1.21-3.65). 4. Women who reported any activity (n=481) compared with inactive women (n=86) were more likely to know people who exercise (OR=1.82, 95% CI=1.06-3.15), have higher social issue scores (OR=1.29, 95% CI=1.11-1.49), and were more than 3 times as likely to report attending religious services (OR=3.82, 95% CI=2.16-6.75).

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Molnar, Gortmaker (2004) Illinois	Perceptions of interpersonal safety (fighting, gang, drugs) in the neighborhood ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* Not reported *Complex:* Not reported	***DESIGN:*** Cross-sectional and observational study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 6586 adults from 343 neighborhood clusters and 1378 youth from 80 target neighborhood clusters as part of the Project on Human Development in Chicago Neighborhoods study. There was an over-representation of low socioeconomic status (SES) racial/ethnic populations, which reflects the heavily segregated nature of Chicago's neighborhoods. ***PRIMARY OUTCOME:*** Physical activity ***MEASURES:*** 1. 1990 US Census data (SES, housing density, family organization) 2. 1995 Community Survey (perceptions of neighborhood safety and opportunities for children to play) 3. Direct observation using measures from the 1995-96 Systematic Social Observation Study (social disorder [fighting, drinking alcohol, peer groups with gang indicators, people selling drugs, prostitution], physical disorder [graffiti, presence/absence of cigarettes or cigars, abandoned cars, needles or syringes]) 4. Interviews with youth and caregivers (youth physical activity, height, weight, family SES) ***DATA COLLECTION:*** The researchers interviewed a random sample in 1995. A higher number of respondents were selected from the 80 targeted clusters. Within each household, all residents over the age of 18 were listed and one respondent was sampled at random. In 1995, 23,816 face blocks within the 80 targeted neighborhood clusters were observed for indicators of social and physical disorder. Block-by-block videotaping and 2 trained live observers collected the data. Within the 80 targeted neighborhood clusters, ~40,000 households were screened for eligible youth and interviews were carried out with the youth of all eligible ages and at least one primary caregiver. ***LIMITATIONS:*** Cross-sectional design limits assumptions of causality; study only measured safety and disorder in neighborhoods, not where youth went to school or the effect of traffic on physical activity levels; "hours of recreational programming per week" was assessed by caregivers' reports rather than self-report and included measures of "games, sports, and crafts," all of which may not require energy output implied by physical activity; results may not be generalizable to other settings and age groups; study is based on data collected in 1995 to 1996, which may not reflect the current neighborhood conditions	Urban, 11-16 year olds and their caregivers, 35.1% African-American, 47.1% Hispanic, 3.4% Other, 14.3% Caucasian (evaluation sample) ***ELIGIBILITY:*** Children were eligible to participate if they were within 6 months of the target ages (0, 3, 6, 9, 12, 15, 18). This study uses results from the 12-15 year-old cohorts. ***EXPOSURE/ PARTICIPATION:*** Not reported	***LEAD AGENCY:*** The research team ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** This study was supported by the Centers for Disease Control and Prevention. Funding for the Project on Human Development in Chicago Neighborhoods was provided by the John D. and Catherine T. MacArthur Foundation, the National Institute of Mental Health, and the National Institute of Justice. ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. In multilevel, multivariate analyses using hierarchical linear modeling, both neighborhood social disorder (coefficient= -0.40, $p<0.05$) and community members' assessment of the neighborhood as unsafe to play (coefficient= -1.44, $p<0.05$) were significantly and inversely associated with youth physical activity, controlling for both individual- and neighborhood-level SES, age, sex, race and BMI. 2. The association between neighborhood physical disorder and youth physical activity was in the expected direction but was not significant. 3. Using multilevel logistic regression, the odds of taking part in any recreational activity were 0.5 for each unit increase in the unsafe to play scale (95% CI: 0.3-0.8). The odds ratio for social disorder was 0.9 (95% CI: 0.8-1.1), and for physical disorder was 0.9 (95% CI: 0.7-1.1). 4. Increasing the safety of neighborhoods in which to play (from midpoint of bottom quartile to midpoint of top quartile) was associated with an increase of 49 minutes per week of physical activity. Decreasing social disorder (from midpoint of bottom quartile to midpoint of top quartile) was associated with an increase of 29 minutes per week.

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Burdette, Whitaker (2005) United States	Perceptions of neighborhood interpersonal safety ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* Not reported *Complex:* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 3326 three to four year old children from 20 large cities in 15 states from the Fragile Families and Child Wellbeing Study. The study followed 4,898 children drawn from births in 1998-2000. This analysis uses data from the 3 year follow-up. ***PRIMARY OUTCOMES:*** Overweight/obesity and physical activity ***MEASURES:*** 1. Height and weight (body mass index [BMI]) 2. Parent survey (sociodemographic characteristics, number of hours children spent playing outdoors, amount of time children spent watching television or videos) 3. Neighborhood Environment for Children Rating Scales (maternal perception of neighborhood safety [observed frequency of adult loitering, gang activity, drunks or drug dealers, and disorderly or misbehaving groups of youths or adults in the neighborhood]) ***DATA COLLECTION:*** The survey of mothers was conducted when their children were ~36 months of age. Of the 3326 mothers who completed the follow-up survey, 2620 did so as an in-home interview during which the child's height and weight were measured. The remaining 706 mothers completed the survey by telephone and no height or weight measurements were obtained on the children. The child's height and weight were measured by interviewers using a protocol modeled after that of the CDC, and BMI was calculated based on the Centers for Disease Control and Prevention (CDC) 2000 Growth Charts. ***LIMITATIONS:*** Parent reported data; possible that outdoor play occurred in settings other than the child's neighborhood, such as in preschool or daycare; BMI was measured on a subsample of the children, and these children were more likely to have lived in unsafe neighborhoods (direction of a selection bias on the analyses involving BMI is unclear); study involved only children who lived in large cities and oversampled children who were born to unwed mothers; potential unmeasured factors (e.g., neighborhood selection, dietary behavior) contributing to obesity and physical activity	3-4 year olds, 35% Lower-income, 48% Black non-Hispanic, 26% Hispanic (any race), 22% White non-Hispanic, 4% other race, non-Hispanic (evaluation sample) ***ELIGIBILITY:*** Families were ineligible for the Fragile Families and Child Wellbeing Study if the child was placed for adoption, if the mother did not speak English or Spanish well enough to understand the survey, or if the mother was too ill after delivery to participate in an interview. Most hospitals did not allow mothers who were <18 years to participate. Informed written consent was required. ***EXPOSURE/ PARTICIPATION:*** Not reported	***LEAD AGENCY:*** The research team ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not reported ***ADOPTION:*** Not reported ***IMPLEMENTATION:*** Not reported ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not reported ***FUNDING:*** National Institutes of Health ***STRATEGIES:*** Not reported	***OVERWEIGHT/OBESITY:*** 1. Mean BMI z scores and obesity prevalence did not differ in children from the least safe to the safest tertile of neighborhood safety. ***PHYSICAL ACTIVITY:*** 2. Children did not differ in weekend or weekday outdoor playtime across the neighborhood safety tertiles. ***SCREEN TIME:*** 3. After adjusting for sociodemographic factors, children in the least safe neighborhoods watched more TV (201 ± 4 min vs. 182 ± 4 and 185 ±4 min in the medium and high safety tertiles, respectively, p=0.001) and were more likely to watch >2 hours of TV per day (66% vs 60% and 62% in the medium and high tertiles, respectively, p=0.02). Children in the least safe tertile watched ~20 minutes more (~10% more) per day than children in the other 2 tertiles of neighborhood safety.

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Weir, Etelson (2006) New York	Perceptions of neighborhood safety (crime) ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Perceptions of neighborhood safety (traffic) *Complex:* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 307 parents of children visiting an inner city family health center (intervention group, n=204) and a suburban private pediatric practice (comparison group, n=103) ***PRIMARY OUTCOMES:*** Physical activity and participation in sports ***MEASURES:*** 1. Parent survey (child's physical activity, extent of outside play; anxiety about gangs, crime, aggression by other children, traffic, and general neighborhood safety; child's age and sex; respondent's relationship to the child, level of education, race/ethnicity) ***DATA COLLECTION:*** Parents of 5-10 year old children with a scheduled appointment at the inner city health center between July 28 and October 22, 2004, or at the suburban private practice between October 22, 2004 and February 11, 2005 were invited to complete the questionnaire in English or Spanish. The survey was adapted from previously tested and validated instruments including the Neighborhood Environment Walkability Scale, International Physical Activity Prevalence Study Self-administered Environmental Module and a study about parental perceptions of the local neighborhood. Surveys were distributed to the parent in the examination room by the office staff and were instructed to answer questions about their child falling between the aged of 5 and 10 years. Completed surveys were returned to a drop box in the waiting area. Safety was a composite score of interpersonal and traffic safety indicators. ***LIMITATIONS:*** Data was collected at different times of the year for the inner city (summer and fall) and the suburban site (fall and winter) making weather effects non-equivalent; only two sites (one inner city, one suburban) were used limiting generalizability; data was self-reported; cross-sectional study design limits causal interpretation	Urban, Lower-income, 5-10 year olds (target) >25% children live below the poverty line, 40% of residents are non-English speakers; 76% Hispanic, 11% Black, 5% White, 2% Other, 5% Not answered, mean age= 7.4±1.9 years (Inner city evaluation sample) Primarily middle-class, Caucasian population; 50% White, 16% Hispanic, 17% Black, 7% Other, 10% not answered, mean age= 6.9±1.6 years (Suburban Community evaluation sample) ***ELIGIBILITY:*** Parents of 5-10 year old children with a scheduled appointment at the inner city health center or suburban private practice on certain dates were invited to complete the questionnaire. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** The researchers were from New York Medical College and the health centers. ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** The authors adjusted the wording and format for the questionnaire based on parents' feedback obtained during pilot testing. ***PROCESS EVALUATION:*** Not applicable	***RESOURCES:*** Not applicable ***FUNDING:*** Health Resources and Services Administration ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. Inner city children were more likely to not participate in any organized sports or dance programs (58% vs. 30%, p<0.0001), nor participate in organized sports or play outside except when accompanied by an adult (21% vs. 4%, p<0.0001) compared with suburban children 2. Inner city children's physical activity levels were negatively correlated with parental anxiety about neighborhood safety (r= -0.18, p<0.05, n=188). No correlation was found for suburban children (p=0.35, n=97). ***OTHER:*** 3. In comparison with suburban parents, inner city parents were more likely to worry about their child being threatened by gangs (70% vs. 12%, p<0.001), worry that other children might hurt their child (62%, vs. 14%, p<0.0001), feel that there was no safe play area in their neighborhood (36% vs. 9%, p<0.0001), believe it is dangerous to let a child play outside (58% vs. 8%, p<0.0001), feel that traffic is a problem (60% vs. 27%, p<0.0001), believe that the neighborhood crime rate makes it unsafe to play outdoors (50% vs. 3%, p<0.0001), and feel personally unsafe in their own neighborhood (48% vs. 3%, p<0.0001).

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Gordon-Larsen, McMurray (2000) United States	Perceptions of safety related to serious neighborhood crime ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Use of community recreation centers 2. Physical education classes *Complex:* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 17,766 adolescents in grades 7-12 (aged 11-21 years) ***PRIMARY OUTCOMES:*** Moderate-to-vigorous physical activity (MVPA) and inactivity ***MEASURES:*** 1. Survey (socio-demographic data [sex, age, urban residence, presence of mother/father in household, pregnancy status, work status, in-school status], participation in school physical education programs, use of community recreation center, total reported incidents of serious crime in neighborhood, generation of residence in the United States, region, and month of interview) 2. 7-day recall (moderate-to-vigorous physical activity, physical inactivity) 3. 1993 Uniform Crime Reports of the US Federal Bureau of Investigation (community level data; crime rates) ***DATA COLLECTION:*** Data for this study came from the wave I sample of adolescents enrolled in the National Longitudinal Study of Adolescent Health (Add Health) measured between April and December 1995. The 7-day recall assessment employed an array of questions of questions similar to those used and validated in many other smaller studies to categorized adolescents into high, medium, and low activity and inactivity patterns with reasonable reliability and validity. Each activity grouping (e.g., skating, dance) was assigned a MET value based on the Compendium of Physical Activity developed for adults to categorize activity as low, moderate or vigorous. A composite inactivity score was calculated using the number of hours and minutes that each adolescent spent engaged in TV/video viewing and playing video/computer games. ***LIMITATIONS:*** Data on community recreation centers were based on actual use not availability, because there are no national databases tracking availability of recreation centers. Actual use may produce misleading results because physically active people may be more likely to use recreation centers.	11-21 year olds, 50.8% Male, 49.2% Female, 66.7% non-Hispanic White, 16.7% non-Hispanic Black, 12.7% Hispanic, 4% Asian, 32.3% Low family income (>$26,200), 37% Middle family income ($26,200-50,000), 30.6% High family income (+$50,000) [evaluation sample] The sample is a nationally representative sample of adolescents in the United States. ***ELIGIBILITY:*** Eligible participants were not of Native American decent because of limited sample size and could not use any walking aids. ***EXPOSURE/ PARTICIPATION:*** Not reported	***LEAD AGENCY:*** The research team was from the University of North Carolina at Chapel Hill. ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** National Institute of Child Health and Human Development, Dannon Institute Postdoctoral Fellowship in Inter-disciplinary Nutrition Science ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. Individuals residing in high crime levels were less likely to fall in the highest category of moderate-to-vigorous physical activity (adjusted odds ratio [AOR]: 0.77, 95% CI= 0.66-0.91, p≤0.002). 2. Using a logistic regression revealed that females living in high crime areas were more likely to fall into the highest category of inactivity (AOR: 1.29, 95% CI= 1.03-1.62, p≤0.027). 3. Having physical education 1 to 4 times per week and 5 times per week were associated with a substantial increase in likelihood of falling in the highest category of moderate-to-vigorous physical activity (AOR: 1.44, 95% CI= 1.09-1.92; p≤0.01 and AOR: 2.21; 95% CI= 1.82-2.68; p≤0.00001, respectively). 4. Participation in physical education was not significantly associated with likelihood of engaging in high levels of inactivity. 5. Individuals using a recreation center were 75% more likely to fall in the highest category of moderate-vigorous physical activity (AOR: 1.75; 95% CI= 1.56-1.96; p≤0.00001).

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Lumeng, Appugliese (2006) AR, CA, MA, KS, NC, PA, VA, WA, WI	Parental perception of safety in the neighborhood ***OTHER INTERVENTION COMPONENT:*** *Multi-component:* Not reported *Complex:* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 768 children ***PRIMARY OUTCOME:*** Overweight/obesity ***MEASURES:*** 1. Height and weight (body mass index [BMI]) 2. The Neighborhood Questionnaire (Neighborhood Safety Subscale [crime, police presence, drug use], Neighborhood Social Involvement Subscale [parental perception of social cohesiveness], demographic data, child's participation in structured after school activities in kindergarten) 3. Home Observation for Measurement of the Environment [HOME] data (stimulation and support available in the home) 4. Center for Epidemiological Studies Depression Scale (maternal scores during child's first grade) ***DATA COLLECTION:*** The present study used data from a sample composed of children and their parents enrolled in the National Institute of Child Health and Human Development Study of Early Child Care and Youth Development (NICHD-SECCYD). The questionnaire was completed by the mother and another adult living in the home who acted as a caregiver. Height and weight were measured during the laboratory visit at the age of 4.5 years and in the spring of the child's first grade year in school. On the overall Neighborhood Questionnaire, the number of possible response categories (e.g., items on the Likert scale) varied from 2 to 10, and on the Neighborhood Safety Subscale, response categories varied from 4 to 5. Responses were therefore rescaled to a 0 to 10 range and averaged to provide the overall score via the methods used in the original scale. The squares were put into quartiles, with individuals in the first quartile having the least perceived safety and individuals within the fourth quartile having the highest perceived safety. The HOME was administered by trained observers during home visits at the child's age of 4.5 years. ***LIMITATIONS:*** No actual measures for neighborhood violence, diet, maternal weight, and television watching behaviors were collected; causal inferences cannot be made using a cross-sectional study design; small minority sample; the findings may not be generalizable to populations; the sample size of overweight children was relatively small (n=79)	3-10 year-olds, 85% White, 9% Black, 6% Other, 10% Child overweight (evaluation sample) Recruited families reflected economic, educational, and ethnic diversity. The initial sample was representative of the demographics of the catchment areas from which the sample was recruited: 24% of the children were of an ethnic/racial minority, 10% of the mothers had less than a high school education, and 14% of the mothers were single at the time of the child's birth. The sample with complete data differed significantly in sex, racial composition, weight, and educational attainment from the sample without complete data (n=596). ***ELIGIBILITY:*** For the NICHD-SECCYD, mothers were eligible if they were healthy, older than 18 years, not planning to move within the next year, lived within an hour of the study site, conversant in English and had a singleton child whose birth was normal and uncomplicated. In Philadelphia families were ineligible if they lived in an extremely unsafe neighborhood as documented by local police. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** The research team was from the University of Michigan, Boston University, and the University of Arkansas. ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** This study was supported by a grant from the Health Resources and Services Administration, Maternal and Child Health Bureau. ***STRATEGIES:*** Not applicable	***OVERWEIGHT/OBESITY:*** 1. Parents of children (n=79) who were overweight in first grade perceived their neighborhoods as significantly less safe than parents of children who were not overweight (7.08 vs. 7.75, respectively; $p<0.001$). 2. 17% of individuals in the first quartile (least perceived neighborhood safety) were overweight compared to 10% in the second quartile, 13% in the third quartile, and only 4% in the fourth quartile (highest perceived safety). 3. Children of parents who perceived the neighborhood as significantly less safe were more than four times more likely to be overweight (OR=4.43, 95% CI=2.03-9.65, $p<0.001$). 4. None of the covariates altered the relationship between parental perception of neighborhood safety and overweight in first grade, and none of the interactions were statistically significant. 5. Parental perception of neighborhood safety independently increases the risk of being overweight in children 4.5 to 7 years [OR=9.44, 95% CI=4.18-21.36, $p\leq0.001$).

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Kerr, Rosenberg (2006) Washington	Perceptions of neighborhood safety (crime) ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Diverse land use mix 2. Neighborhood aesthetics 3. Perceptions of neighborhood traffic 4. Access to walking and biking facilities *Complex:* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 259 parents in neighborhoods of King County, WA ***PRIMARY OUTCOME:*** Active commuting ***MEASURES:*** 1. Survey (physical activity [number of days per week their child walked or biked, rode in a car or school bus, or took public transportation to and from school], self-reported sociodemographic variables and perception of the local environment) 2. The Neighborhood Environment Walkability Scale [NEWS] (participant address [geo-coded], 1 kilometer (km) buffer around residence, residential density, proximity and ease of access to nonresidential land uses [e.g., restaurants], street connectivity, walking or cycling facilities, aesthetics, pedestrian traffic safety, and crime safety) 3. Parental concern scale (11 items [stranger danger, gangs, bullying, too much traffic in my neighborhood and at school, drivers' speeds, no (or inadequate) sidewalks or bikeways on the route to school, school is too far away, not enough time, convenience after school and on way to work, child walking alone, and child preference]) ***DATA COLLECTION:*** Data for this study used information from the Neighborhood Quality of Life Study (NQLS), which combines Geographic Information Systems (GIS) data and Census data. Parents answered supplemental questions with regard to the youngest or only child in the household between 4-16 years of age. Data was collected throughout an entire year, to allow for variations in activity because of weather. The NEWS is a GIS based index combining net residential density, retail floor area ratio, intersection density, and land use mix. The parental concern scale had a Cronbach alpha of 0.80. ***LIMITATIONS:*** The small sample size and cross-sectional data limit the ability to infer causal relationships.	Parents; 20-65 years old, 83.3% White, 16.7% Minority Children; 45.9% >12 years old (evaluation sample) ***ELIGIBILITY:*** Eligible participants had children 4 to 18 years old, provided consent, had a working telephone, and lived within the neighborhood study areas. Parents of children with disabilities were not included in the study. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** The research team was from San Diego State University, Cincinnati Children's Hospital and Health Center and the University of British Columbia. ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** National Heart Lung, Blood, and Blood Institute of the National Institutes of Health ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. Parent concerns, neighborhoods aesthetics, and stores within a 20-minute walk were independently associated with active commuting (parent concerns; OR= 5.2, 95%CI =2.71-9.96, p<0.05, aesthetics; OR=2.5, 95% CI=1.33-4.80, p<0.05, store distance; OR= 3.2, 95%CI= 1.68-6.01, p<0.05). 2. Perceived access to local stores and biking or walking facilities accounted for some of the effect of walkability on active commuting (OR=2.0, 95% CI=1.03-4.00, p<0.05). 3. Parental concerns scale was most strongly associated with child active commuting (OR=5.2, 95% CI= 2.71-9.96, p<0.05). 4. Parent concerns and neighborhood aesthetics were independently associated with active commuting (parent concerns; OR=4.9, 95% CI=2.54-9.40, p<0.05, aesthetics; OR=2.4, 95% CI=1.23-4.56, p<0.05). ***OTHER:*** 5. Parents of children aged 12-18 had significantly fewer concerns about active commuting (p=0.004) than parents of children 5-11 years old. 6. In high-income neighborhoods, more children actively commute in high-walkable (34%) than in low-walkable neighborhoods (23%), but no differences are noted in low-income neighborhoods. 7. Parent concerns about their child walking or biking to school were significantly inversely associated with residential density and neighborhood-level walkability (OR= 2.0, 95%CI= 1.08-3.84, p<0.05 and OR=1.7, 95%CI=1.00-2.85, p<0.05, respectively). 8. In high-income neighborhoods, more children actively commuted in high-walkable (34%) than low-walkable neighborhoods (23%) (odds ratio= 2.1, 95% CI= 1.12-3.97, p<0.05), but no differences were noted in low-income neighborhoods.

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Doyle, Kelly-Schwartz (2006) United States	Perceptions of neighborhood safety ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Neighborhood walkability including: number of intersections, connectivity, number of roads, and street connectivity *Complex:* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 9252 adults [total sample] (2,231 lifelong residents as a subset) ***PRIMARY OUTCOMES:*** Overweight/obesity and walking behavior ***MEASURES:*** 1. Weight and height (body mass index [BMI]) 2. National Health and Nutrition Examination Survey III, 1998-1994 [NHANES] (frequency of physical activity [within the last month], anthropometric data, physician and self-rated health scores [diabetes, hypertension], sociodemographic data) 3. Walkability index (connectivity, block area < 0.01 miles2, number of intersections/total number of roads) 4. 1991 Uniform Crime Report [UCR] (county crime rate) ***DATA COLLECTION:*** Researchers used the National Health and Nutrition Examination Survey III (NHANES III), 1988-1994. Data for the survey were gathered through personal interviews in respondents' homes and through medical examinations conducted in a mobile examination center. Each rating used a five-point scale, with 1 being "poor" and 5 being "excellent." Safety was measured as the 1991 county crime rate from the Uniform Crime Report (UCR), except in New York City, for which crime rates are reported as adjusted. A composite measure of walkability was calculated based on three county-level indicators: the negative of average block size, which should be positively related to connectivity; the percent of all blocks having areas of less than 0.01 square miles; and the number of 3-, 4-, and 5-way intersections divided by the total number of road miles. All three measures were highly correlated (Pearson's r ranged from 0.80 to 0.88; coefficient alpha=0.94). Higher scores indicated a more walkable environment. Duration of residence in the same location was assessed to understand exposure to local environment. ***LIMITATIONS:*** Results may only generalize to large urban areas; sample sizes were smaller for questions based on examination data than for questions based on interview data	Adults, Urban, Mean age= 46.8 (±20.03), 32% Non-Hispanic White, 28% Non-Hispanic Black, 33% Mexican American Income/poverty level: mean=2.41, SD=1.81 (5-point scale, ratio of income to poverty level, higher score=higher income) (evaluation sample) Respondents in the interview sample, tended to be somewhat older, less healthy, and more often non-Hispanic White. ***ELIGIBILITY:*** Eligible participants for the NHANES III were individuals 18 years and older, who were not institutionalized, and were civilians of the United States. Participants were eligible if they lived in areas with populations of 500,000 or more. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** Researchers were from Cornell University's Department of Campus Life and the Department of Planning, Public Policy and Management at the University of Oregon. ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Previous research (health, street connectivity, block size, and urban sprawl) assisted the present study in finding basis for their own examination. (Brownson et al., 2001; Trost et al., 2002; Humpel et al., 2002; et cetera). ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** Not reported ***STRATEGIES:*** Not applicable	***OVERWEIGHT/OBESITY:*** 1. Individuals who live in counties that are more walkable and have lower crime rates tended to walk more and to have lower body mass indices (BMIs) than people in less walkable and more crime-prone areas, even after controlling for a variety of individual variables related to health (walkability; coefficient= -0.054, standard error=0.028, p<0.05, crime; coefficient= -2.00, standard error=4.20, not significant). ***PHYSICAL ACTIVITY:*** 2. Individuals who live in counties that are more walkable and have lower crime rates tended to walk more than people in less walkable and more crime-prone areas (coefficient=0.053, standard error=0.020, p<0.01 for walkability, crime not significant). ***OTHER:*** 3. Among lifelong residents of an area, lesser walkability and more crime were also associated with respondents reporting weight related chronic illness (diabetes and hypertension; walkability coefficient= -0.001, standard error=0.011and crime coefficient= -0.978, standard error=1.70) and lower ratings of their own health (self-rated; walkability coefficient= 0.006, standard error= 0.006 and crime coefficient=0.692, standard error=0.80, physician health; walkability coefficient=0.031,standard error=0.025, and crime coefficient=-0.910, standard error=2.80, no significant association).

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
King, Toobert (2006) California, Oregon, Georgia, Rhode Island, Tennessee	Perceptions of neighborhood safety from crime ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Perceptions of neighborhood traffic safety 2. Land-use mix 3. Street connectivity and alternative routes *Complex:* 1. Perceptions of social support	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 639 individuals from 5 Behavior Change Consortium (BCC) sites; California (n=94 men and women); Oregon (n=122 post-menopausal women with type 2 diabetes); Georgia (n=255 men and women, African-American); Rhode Island (n=109 participants); Tennessee (n=64 obese, sedentary, lower-income, minority participants) ***PRIMARY OUTCOMES:*** Moderate and vigorous intensity physical activity and walking behavior ***MEASURES:*** 1. Neighborhood Environment Walkability Scale [NEWS] (perceived environment; residential density, land use mix, access to restaurants and retail stores, street connectivity, walking and cycling facilities, aesthetics, traffic safety, and safety from crime) 2. Community Health Activities Model Program for Seniors (CHAMPS) questionnaire (frequency, intensity, duration of physical activity over past month, meeting national recommendations, walking for errands and leisure, demographic characteristics) ***DATA COLLECTION:*** Data from 5 BCC sites used for the current investigation contributed cross-sectional data on physical activity (3 sites) and the perceived neighborhood environments (all 5 sites). Each site conducted a randomized, controlled trial evaluating one or more interventions aimed at changing single or multiple health behaviors. The NEWS was collected at 6 months post-baseline for Stanford, 12 months post-baseline for Atlanta, and 24-36 months post-baseline for Memphis, Rhode Island, and Oregon (ICC≥0.75). The NEWS has been shown to significantly discriminate among neighborhoods varying in objectively defined levels of walkability. All subscales were calculated as mean across items. The CHAMPS questionnaire is concurrent with the NEW and has been shown to discriminate among groups varying in physical activity levels (ICC 0.62-0.76). ***LIMITATIONS:*** Time point across studies for data collection could not be standardized; the number of variables tested was large; data for questionnaires was self-reported	Adults, Elderly, African-American, Lower-income (target sample) 55 years and older (Stanford); 18-72 years old (Atlanta); 65 years and older (Rhode Island) 10.6% Minorities (California); 3.3% Minorities (Oregon); 97.7% Minorities (Georgia); 1.9% Minorities (Rhode Island); 100% Minorities (Tennessee) (evaluation sample) ***ELIGIBILITY:*** Not reported ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** Researchers were from Stanford University, Oregon Research Institute, Northeastern University, San Diego University, and the Universities of Michigan, Tennessee, and Rhode Island. ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** The National Institutes of Health Behavior Change Consortium (BCC) Initiative, funded health behavior intervention studies between 1999 and 2002, provided data for this study. ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** The current investigation was funded by the Robert Wood Johnson Foundation Active Living Research Program grant. ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. Seeing stray or loose dogs in one's neighborhood was negatively associated with minutes per week of moderate-intensity or more vigorous physical activity in the Atlanta sample (parameter estimate=-63.2(218), p=0.006, total R^2=6.7) and was negatively associated with hours per week walking for errands at the Memphis site (parameter estimate = -0.27(73), p=0.04, total R^2=26.0). Seeing stray or loose dogs in one's neighborhood was negatively associated with minutes per week of leisurely walking at the Memphis (parameter estimate=-0.45(73), p=0.03, total R^2=13.9) and Atlanta sites (parameter estimate=-0.30(251), p=0.017, total R^2=6.3). 2. Stores within easy walking distance of home was positively associated with minutes per week of walking for errands at the Stanford site (parameter estimate=0.34(93), p=0.048, total R^2=15.6) and minutes per week of leisurely walking at the Atlanta site (parameter estimate=0.25(251), p=0.03, total R^2=6.3). 3. Having many alternative routes when going from place to place was positively associated with minutes per week of walking for errands at the Oregon site (parameter estimate=0.35(121), p=0.02, total R^2=6.6). 4. Seeing or speaking with others when walking in one's neighborhood was positively associated with minutes per week of moderate-and/or-vigorous intensity physical activity at the Stanford (parameter estimate=70.4(93), p=0.009, R^2=13.3) and Atlanta sites (parameter estimate=59.3(218), p=0.029, total R^2=6.7). While seeing or speaking with others when walking in the neighborhood was positively associated with minutes per week of walking for errands at the Stanford (parameter estimate=0.46(93), p=0.02, total R^2=15.6) and Memphis sites (parameter estimate=0.25(73), p=0.05, total R^2=26.0). 5. Living in a neighborhood of mostly detached, single-family homes was positively associated with minutes per week of moderate-and/or-vigorous intensity physical activity at the Oregon site (parameter estimate=139.0(121), p=0.02, total R^2=7.7) and negatively associated with minutes per week of leisurely walking at the Rhode Island site (parameter estimate= -1.1(94), p=0.05, total R^2=11.2). *(continued next page)*

(Continued from previous study)						
						CHAMPS BASELINE AND INTERVENTION: 6. In Stanford, participants who strongly agreed with "most drivers exceed the posted speed limits while driving in the neighborhood" showed fewer minutes per week of 6-month moderate-intensity or more vigorous physical activity (by approximately 90 minutes or more per week) relative to intervention participants reporting speeding drivers to be less of an issue this interaction effect reached significance (F for interaction term= 3.8, [1,89], p=0.05). 7. In Oregon, participants who strongly agreed that their neighborhood was generally safe showed more minutes per week of 24-month moderate-intensity or more vigorous physical activity (by approximately 150 minutes or more per week) relative to intervention participants reporting their neighborhoods as being less safe. 8. In Oregon, the interaction term involving the item that states "the crosswalks in my neighborhood help walkers feel safe crossing busy streets" reached significance [F for interaction term=5.2(1,1170, p=0.02)]. Participants who strongly agreed with this item showed more minutes per week of 24-month moderate-intensity or more vigorous physical activity (by approximately 100 minutes/week) relative to intervention participants endorsing lower levels of this item. 9. In Oregon, the neighborhood traffic and crime-related safety subscale reached statistical significance (F for interaction term= 5.9[1,117], p=0.016). Participants who strongly agreed that "my neighborhood is safe enough that I would let a 10-year old boy walk around my block alone in the daytime" showed more minutes per week of 24-month moderate-intensity or more vigorous physical activity (by approximately 150 minutes per week) relative to intervention participants reporting lower levels of this item. 10. In Atlanta, the interaction involving a variable of perceived neighborhood safety-the presence of crosswalks in the neighborhood that helped walkers feel safe crossing busy streets-reached statistical significance (F for interaction term=3.1(2,197), p=0.048). Participants randomized to the physical activity intervention involving tailored messages plus telephone follow-up who strongly agreed that "the crosswalks in my neighborhood help walkers feel safe crossing busy streets" showed more minutes per week of 12-month moderate-intensity or more vigorous physical activity (by more than 100 minutes/week) relative to intervention participants reporting lower values on this item.

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Bennett, Mcneill (2007) Massachusetts	Perceptions of neighborhood safety from crime ***OTHER INTERVENTION COMPONENTS:*** *Multi-component* Not reported *Complex* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 1,180 participants from 12 urban public housing communities in metropolitan Boston. The housing sites varied in size and layout from high-rise apartment buildings to more dispersed townhouse-style complexes. ***PRIMARY OUTCOME:*** Physical activity ***MEASURES:*** 1. Height and weight (body mass index [BMI]) 2. Pedometer (step counts) 3. Self-Efficacy and Exercise Habits Survey (physical activity and self-efficacy) 4. Perceptions of neighborhood safety survey items (crime, traffic, around green space) 5. Sociodemographic item (age, race/ethnicity, highest level of education, employment status) ***DATA COLLECTION:*** Before being provided to participants, all pedometers were fully tested, using Tudor-Locke's method, to ensure that they were fully operational. Participants wore the pedometer during waking hours. After the fifth day, participants were asked to remove the pedometer and place it in the provided storage container before going to bed; the pedometer was not to be removed from the container until it was returned to study staff, which was typically on the same or next day. Pedometers were taped shut so that participants could not see the step count. Upon receipt of the pedometer, staff checked for signs of tampering, and immediately recorded the accumulated steps. Self-efficacy and exercise habit items were tested and had a Cronbach's alpha of 0.80. ***LIMITATIONS:*** The data was cross-sectional; the study was conducted at a time when neighborhood violence was dramatically increasing; response rates were low; generalizability of the findings is constrained to those individuals residing in comparable communities; the authors should have measured height and weight among all participants, but this was not feasible in some housing sites, so self-reported height and weight was used	Adults, Urban, Lower income, 94.8% Minority: 43.6% Black, 5.2% White, 42.1% Hispanic, 9.1% Other; 26.8% Men, 73.2% Women (evaluation sample) ***ELIGIBILITY:*** Participants were eligible if they resided in the housing communities being examined, were at least 18 years of age, and were fluent in English or Spanish. In addition, individuals were eligible if they provided consent, were physically able to participate in activities, maintained literacy levels allowing them to complete the questionnaires and sample logs, and were willing to wear the pedometers at least three days. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** The research team was from the Harvard School of Public Health, the Dana-Farber Cancer Institute, the University of Texas, Washington University School of Medicine, and the University of Massachusetts. ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** National Cancer Institute, Liberty Mutual, National Grid, and the Patterson Fellowship Fund. ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. For night-time reports of perceived neighborhood safety, the authors saw no association with steps per day among men ($p=0.27$). For women, however, feeling unsafe was significantly associated with steps per day in both age-adjusted bivariate and multivariable-adjusted models; women feeling unsafe at night had 1,107 fewer steps per day than those who identified their neighborhoods as safe in the multivariate model ($p<0.01$). 2. In multivariable-adjusted models, men reporting feeling a little unsafe at night were 51% less likely to have high physical activity self-efficacy than those who felt safe (OR=0.49, 95% CI=0.26-0.94). Men reporting feeling unsafe at night were 58% less likely to have high physical activity self-efficacy than those who felt safe (OR=0.42, 95% CI=0.16-1.10). For women, those feeling a little unsafe (OR=0.73, 95% CI=0.46-0.93) and unsafe (OR=0.74, 95% CI=0.46-0.92) at night were also less likely than those who felt safe to have high physical activity self-efficacy. 3. Using multivariable models revealed that there was a significant variation in physical activity self-efficacy for both men and women when looking at neighborhood security during the day. Men who felt a little unsafe or not at all safe were 51% less likely to have high physical activity self-efficacy, whereas women who felt similarly were 32% less likely.

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
King, Castro (2000) United States	Perceptions of neighborhood safety from crime and unattended dogs ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* Not reported *Complex:* Not reported	***DESIGN:*** Cross-sectional study ***INTERVENTION DURATION:*** Not applicable ***SAMPLE SIZE:*** 2912 women (712 White, 646 African American, 653 American Indian-Alaskan Native, 622 Hispanic, 279 unidentified/other) ***PRIMARY OUTCOME:*** Physical activity ***MEASURES:*** 1. Survey (physical activity, sociodemographic data, general health and functioning, self-consciousness, fear of injury, lack of time, energy level, safe place for exercise, type of physical activity program, presence of sidewalks, streetlights, hills, traffic, aesthetics, unattended dogs, crime, others exercising in neighborhood) 2. Behavioral Risk Factor Surveillance System (BRFSS) and National Health Interview Survey items (leisure-time, occupational, home-based physical activity over past 2-weeks) ***DATA COLLECTION:*** The data used in this investigation were collected as part of a large-scale the U.S. Women's Determinants Study (Brownson et al., 1999). Valid and reliable scales were used when possible. The survey was conducted in English only and was developed through a combination of items from the BRFSS, the National Health Interview Survey, and other surveys. Data were collected over a 1-year period from July 1996 to June 1997 to cover seasonal variations by trained interviewers. Interviews were conducted by experienced interviewers who completed 8 or more hours of training. Physical activity level was divided into three categories: sedentary; underactive; and active. Likert-type scales were used for barriers and psychosocial factors with 1 being a low (never/very unsafe) score and 5 being a high (very often/very safe) score. For comparison purposes, a group of White women 40 years of age and older was also surveyed via standard BRFSS techniques. ***LIMITATIONS:*** Data was self-reported; there is a lack of validity reported for the physical activity variables collected for the BRFSS and similar surveys; the survey was collected in English only; causal inferences cannot be made using a cross-sectional design	Female, Adults, 40 years of age and older, 26.4% White, 25.6% Black, 25.3% American Indian/ Native Alaska, 22.7% Hispanic , 60% reported annual household income < $35,000 (evaluation sample) White, adult, female (comparison sample) This study was able to obtain a representative distribution of minority and low-income women. The study was unable to obtain sufficient numbers of Asian-Pacific Island women to be in the sample because of language difficulties and cultural barriers. ***ELIGIBILITY:*** Females 40 years and older living in zip codes with 20% or more of each of the following racial categories: African-American, American Indian-Alaskan Native, and Hispanic were eligible for the study. ***EXPOSURE/ PARTICIPATION:*** Each of the four racial-ethnic subgroups (white, black, American Indian/Alaskan Native, and Hispanic) targeted constituted approximately 25% of those sampled.	***LEAD AGENCY:*** The research team was from Stanford University, Saint Louis University, the University of South California, and San Diego State University. ***THEORY/ FRAMEWORK:*** Social Cognitive Theory ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTION:*** Not applicable ***ADOPTION:*** Not reported ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** The study was funded through Centers for Disease Control and Prevention, National Institutes of Health Women's Health Initiative and the National Institute on Aging. ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. Females reporting the presence of hills (OR=1.46, 95% CI=1.22-1.75, p<.001) and enjoyable scenery (OR=1.42, 95% CI=1.12-1.79, p<0.01) in their neighborhoods were more likely to be physically active. 2. Females reporting the presence of unattended dogs were more likely to be physically active (OR=1.20, 95% CI=1.01-1.42, p<0.05). 3. Through regression analyses four variables were found to be significantly associated with White women and physical activity; age and lack of energy (OR=0.78, 95% CI= 0.67-.92, p<0.01) were negatively associated with physical activity, while education and the presence of hills in the neighborhood (OR=1.48, 95% CI=1.04-2.10, p<0.05) were positively associated with physical activity. These results showed the same direction of effect described for the total sample (overall model, $\chi^2(28, N = 712) = 76.7, p < 0.0001$). 4. Through regression analyses three of the variables achieved statistical significance in African-Americans: frequently observing others exercising in one's neighborhood (OR=2.08, 95% CI=1.45-2.98, p<0.001) and the presence of unattended dogs in one's neighborhood (OR=1.51, 95% CI=1.06-2.15, p<0.05) were positively associated with physical activity while care-giving (OR=0.84, 95% CI=0.74-0.96, p<0.05) was negatively associated with physical activity. (Overall Model, χ^2 (28, N = 646) = 70.2, p< 0.0001). 5. Four of the variables entered into the regression model for the Hispanic subgroup achieved statistical significance: overall model, χ^2 (28, N = 622) = 64.8, p < 0.0001. The presence of hills in one's neighborhood (OR=1.89, 95% CI=1.21-2.93, p<0.01), discouragement form others about exercise (OR=1.25, 95% CI=1.03-1.51), and education were positively associated with physical activity, while being too tired (OR=0.78, 95% CI=0.66-0.92, p<0.01) was negatively associated with physical activity. ***OTHER:*** 6. Females reporting frequent observations of others exercising in their neighborhood were associated with more physical activity (OR=1.26, 95% CI=1.06-1.50, p<0.01). 7. Females who were more self-conscious about their appearance were more likely to be physically active (OR=1.08, 95% CI=1.01-1.14, p<0.05). 8. Females reporting that they were too tired (OR=0.92, 95% CI=0.85-0.99, p<0.05), lacked energy (OR=0.90, 95% CI=0.84-0.97, p<0.01), and not in good health (OR=0.93, 95% CI=0.86-0.99, p<0.05) were less likely to be physically active. 9. Through regression analyses three of the variables achieved statistical significance for American Indian–Alaskan Native: overall model, χ^2 (28, N = 653) = 60.6, p < 0.0003. Education (OR=1.21, 95% CI=1.02-1.44, p<0.05) and being self-conscious about physical appearance were positively associated with physical activity while reporting that an individual was not in good health (OR=0.83, 95%CI=0.70-0.97, p<0.05) was negatively associated with physical activity.

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Hooker, Wilson (2005) South Carolina	Perceptions of neighborhood safety from crime and unattended dogs ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Perceptions of neighborhood traffic safety *Complex:* 1. Social environment (neighborhood trust)	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 1165 residents in 21 census tracts (477 African Americans, 688 White adults) ***PRIMARY OUTCOMES:*** Walking behavior and meeting physical activity recommendations ***MEASURES:*** 1. Survey (sociodemographic data, safety [traffic, crime, unattended dogs, streetlight quality, safety of recreational facilities], social support [perceived trust for neighbors], physical activity [recommendations, walking patterns, recreation, exercise, transport]) 2. 2001 Behavioral Risk Factor Surveillance System (BRFSS) items (physical activity module) ***DATA COLLECTION:*** The data used for this study was collected during January and February 2001. A Likert-type scale was used to assess the social and safety related environmental supports for physical activity, with the lower value indicating stronger endorsement. Respondents were told that neighborhood was defined as the area within one half-mile or a 10-minute walk from their home. The test–retest reliability of these measures ranges between r = 0.42 and 0.73 at the neighborhood level. Kappa coefficients have demonstrated modest agreement. Respondents who were regular walkers (at least 150 minutes per week) were compared with respondents who were irregular walkers (including non-walkers). ***LIMITATIONS:*** Survey data was self-reported; data was only collected from African-American and Caucasian participants; causal inferences cannot be made using cross-sectional data; some of the measures chosen demonstrated low to fair validity (k=0.02-0.28); social and safety-related variables used did not represent the full domain of built environmental influences	Adults, Rural (target sample) 18-96 years old, 41% African-American, 59% White, >60% Overweight or obese, >59% Not meeting activity recommendations (evaluation sample) 45% African-American, 55% White (county demographics) A proportion similar to the total population and racial distribution of the population were randomly selected from census tracts to guarantee a balance in the racial profile and the geographic distribution of the study sample. The proportion of African American and white adults in the final sample closely resembled the overall proportion of these adult populations in the county. ***ELIGIBILITY:*** Eligible participants were 18 years old, with listed telephone numbers, who reported themselves as Black or White. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** The researchers were from the University of South Carolina and San Diego State University. ***THEORY/ FRAMEWORK:*** The ecological model for health ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Items for the questionnaire were developed from an extensive literature review, expert input, and focus groups conducted with residents living in the county where this study took place. ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** This project was supported by a grant from the Centers for Disease Control and Prevention (CDC). ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. There were no significant differences in perceptions of social and safety-related environmental supports between African American adults reporting meeting or not meeting physical activity recommendations. 2. There were no significant differences in perceptions of social and safety related environmental supports between African American adults reporting meeting or not meeting walking recommendations. 3. White adults who reported their neighborhoods as safe were 1.8 times (95% CI=1.03–3.12, p < 0.05), more likely to report meeting the walking recommendation than white adults who reported their neighborhoods as not safe. 4. White adults who perceived moderate traffic in their neighborhood were one half as likely to report meeting the walking recommendation compared with white adults who perceived heavy traffic in their neighborhood (moderate traffic OR; 0.52, 95% CI=0.31-0.87, p = 0.002). 5. African American adults reporting that their neighbors were physically active were 2 times more likely to meet physical activity recommendations (OR=1.96, 95% CI=1.19-3.25, p=0.009). 6. White adults reporting that their neighbors were physically active were 2.5 times more likely to walk for at least 150 minutes per week (OR=2.51, 95% CI=1.54-4.08, p<0.05).

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Voorhees, Young (2003) Virginia	Perceptions of neighborhood safety from crime ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Perceptions of neighborhood traffic safety 2. Access to places for physical activity within walking distance *Complex:* 1. Neighborhood social support	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 285 respondents in Fairfax and Arlington counties and the city of Alexandria in Virginia. ***PRIMARY OUTCOMES:*** Physical activity and meeting physical activity recommendations ***MEASURES:*** 1. Women and Physical Activity Survey (social roles and issues, sense of community, physical activity, sociodemographic data, general health, lack of lighting and sidewalks, neighborhood safety [traffic, dogs, crime], distance to locations, access to places for physical activity) 2. Behavioral Risk Factor Surveillance System (BRFSS) survey items (intensity of physical activity) ***DATA COLLECTION:*** The Women and Physical Activity Survey used for this study was developed through focus groups and collected as part of the Women's Cardiovascular Health Network Project Sites. Participants were interviewed by trained, bilingual females of a similar age range as the interviewees in April 2002 through September 2002. The BRFSS physical activity measure had an ICC of 0.7 (95% CI= 0.4–0.9). Respondents were categorized as inactive, insufficiently active, and meeting recommendations. Respondents met recommended activity levels if they engaged in moderate activity at least 5 days per week for at least 30 minutes or they engaged in vigorous activity at least 3 days per week for at least 20 minutes. Translation of the English version into Spanish was done by the University of North Carolina (UNC) site. Adaptations were made to account for local variations in language. ***LIMITATIONS:*** Causal inferences cannot be made using cross-sectional data; sample size was small; survey data was self-reported; the sample was a convenience sample	Urban, Female, Hispanic, Adults (target sample) 31.9 years old [mean age], 44.0% Spanish speaking only (evaluation sample) 11.4% Hispanic/ Latino (Fairfax County): 19.5% Hispanic/ Latino (Arlington County): 14.7% Hispanic/ Latino (Alexandria) ***ELIGIBILITY:*** Urban Latina females between the ages of 20 and 50 years were eligible. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** The research team was from the University of Maryland. ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** A small convenience sample (n=12) was administered the survey after 2 weeks to assess test-retest reliability (ICC for environment questions ranged from 0.30-0.94; for physical activity ICC=0.95, 95% CI=0.84-0.98). ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** Supported by the Centers for Disease Control and Prevention Special Interest Project and by a grant from The Robert Wood Johnson Foundation. ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. Women were more likely to be active (OR=1.36, 95% CI= 0.50–3.66) and meet recommendations (OR=1.66, 95% CI= 0.70–3.94) if vehicular traffic is light in the neighborhood. 2. Neighborhoods in which women reported that unattended dogs were not a problem were less likely to be active (OR=0.91, 95% CI=0.54-1.54) and meet recommendations (OR=0.79; 95% CI= 0.44–1.41). 3. Women who perceived their neighborhood as safe from crime (either extremely or somewhat safe) were also more likely to be active (OR=1.34, 95% CI=0.81-2.20) and meet recommendations (OR=1.69; 95% CI= 0.82–3.47). 4. Women (n=216) who reported having places within walking distance were less likely to be active (OR=0.87; 95% CI= 0.31–2.44) and meet activity recommendations (OR=1.58, 95% CI= 0.64-3.90). 5. Women who reported having places to exercise in their neighborhood were less likely to meet activity recommendations (OR=0.56, 95% CI= 0.27-1.17) and be active (OR=0.54; 95% CI= 0.26–1.11). 6. Women were significantly less likely to be active if they reported knowing people who exercised (meets recommendations; OR=0.49, 95% CI=0.27-0.89, any activity; OR=0.42; 95% CI= 0.23–0.76), if they reported people in their neighborhood exercised ([meets recommendations: OR=0.16, 95% CI=0.06-0.45, any activity: OR=0.19; 95% CI= 0.09–0.42), if they belonged to community groups (meets recommendations: OR=0.67, 95% CI=0.39-1.15, any activity: OR=0.32, 95% CI= 0.15–0.69), or if they attended religious services (meets recommendations: OR=0.60, 95% CI=0.31-1.13, any activity: OR=0.41; 95% CI= 0.41–0.72).

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
McDonald (2008) California	Influence of neighborhood crime ***OTHER INTERVENTION COMPONENTS:*** *Multi-component* Not reported *Complex* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 359 minority adults living in Oakland, California. ***PRIMARY OUTCOME:*** Walking behavior ***MEASURES:*** 1. 2000 Bay Area Travel Survey [BATS] (detailed activity, travel information, and sociodemographic information) 2. Activity Diary (activity behaviors, recorded location, and duration) 3. Travel information (related to trips and activities) 4. Crime Data (property [arson, burglary], violent [murder, robbery], and quality of life [weapons offenses, prostitution]) 5. Arc Geographical Information System [ArcGIS] (census block level data; location for each crime) 6. Built environment/neighborhood (population density, Cervero and Duncan's "residential index" calculated as housing units as a percent of housing and employment, and a composite measure of the street network) ***DATA COLLECTION:*** Data were taken from 3 publicly available sources; the 2000 San Francisco Bay Area Travel Survey (BATS), Census 2000 Topologically Integrated Geographic Encoding and Referencing system files (TIGER), and 2000 Oakland, CA crime records. Activity diaries were completed over a 2 day period. Information on crime related statistics for Oakland was collected from the Oakland Police Department. Rape and attempted rape were not included because this information was not available to researchers. The environmental composite measure were generated using factor analysis on the number of intersections per square kilometer (km) and the percentage of one, three, four, and five-way intersections within a 0.8 km radius of respondent's home. ***LIMITATIONS:*** Causal inferences cannot be made from the cross-sectional study design; the self-reported survey design leads to response bias; crime was only measured objectively	Adults, 44 (± 16) years, Lower income 100% Minority: 49% African American, 26% Asian, 20% Latino, and 5% Other nonwhite (evaluation sample) This area was chosen because of the substantial spatial variation in levels of criminal activity combined with detailed information on walking trips. ***ELIGIBILITY:*** Respondents missing geocoded residential location (n=8) and those who did not report the number of household vehicles (n=10) were eliminated from the sample. Limited to non-white adult residents of Oakland, CA. ***EXPOSURE/ PARTICIPATION:*** Not reported	***LEAD AGENCY:*** Researchers were from the University of North Carolina at Chapel Hill, used public resources from the government to compile population data and find associations between the environment and physical activity. ***THEORY/ FRAMEWORK:*** Social ecological framework ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not reported ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** Not reported ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. The model showed a significant negative association between violent crime and minutes walked per day (β=-0.07; p=0.016). 2. Neither property nor quality of life crimes were correlated with amount of walking. 3. The model results showed that one standard deviation increase in violent crime (16.3 crimes per 1000 block group residents) is associated with a decrease in walking rates by a factor of 0.32 (CI=0.13, 0.81). 4. The reference person with no vehicle access walked 14.1 minutes more per day living in a very low crime neighborhood (5th percentile) compared with a very high crime neighborhood (95th percentile). 5. The model predicts a difference of 4.4 minutes of walking per day for individuals with access to a vehicle depending on whether they live in a high-or low-crime area.

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Forsyth, Hearst (2008), Forsyth, Oakes (2007), Oakes, Forsyth (2007) Minnesota	Perceptions of neighborhood safety from crime ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Access to transit 2. Street network and residential density 3. Access to places for physical activity 4. Density and land-use mix *Complex:* 1. Social environment	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 716 individuals from 36 neighborhoods ***PRIMARY OUTCOMES:*** Walking behavior and total physical activity ***MEASURES:*** 1. Height and weight (body mass index [BMI]) 2. International Physical Activity Questionnaire (IPAQ: n=716) (physical activity, metabolic equivalent times scale [METs]) 3. 7-day travel and walking diary (n=709) (modified version of National Household Travel Survey) (mean miles walked) 4. Geographic Information Systems (GIS) (focus areas, street pattern, residential density) 5. Accelerometers (n=712) (physical activity [activity counts]) 6. US Census (density, street connectivity) ***DATA COLLECTION:*** The data reported is from the Twin Cities Walking Study, which was collected from April to November. The IPAQ and Travel diary, modified National Household Travel Survey, were used to assess walking behavior and overall physical activity. Accelerometer data was processed as mean total activity counts per 24-hour day and were calculated by summing counts within all valid days then dividing by the number of valid days. Accelerometer reliability in children and adolescents is ICC=0.76, and is reliable in adults as well. High density was defined as greater than 24.7 persons per gross hectare (ha) excluding water bodies only; low density was defined as less than 12.4 persons/ha. Small median block size was defined as below 2 ha, which was related to standard block sizes in the area. Large blocks were larger than 3.2 ha. Twenty per cent of participants, or 147 people, completed repeated measures for a reliability assessment ***LIMITATIONS:*** Only the first 20 volunteers from each area were taken for the study; all potential confounders were not controlled; the threat of residual confounding was severe; self-selection was not controlled; cross-sectional study design restricts temporal and causal inferences; data was self-reported	Adults 65% Female 81% Caucasian (sample) 51% Female 76% Caucasian (2000 Census) Study participants appear relatively homogenous with respect to SES but heterogeneous with respect to density and street connectivity. The northern sector of the Minneapolis-St. Paul metropolitan area was chosen for its environmental diversity. ***ELIGIBILITY:*** Participants were ≥25 years of age, had primary residence in one of the 36 neighborhoods, and were able to walk for 20 minutes unaided. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** Researchers were from the University of Minnesota, Cornell University, University of Pennsylvania ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not reported ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** This study was supported by a grant from the Robert Wood Johnson Foundation through the Active Living Research program. ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. High density areas have twice the odds of increased travel walking as low density areas (OR=1.99; 95% CI=1.29, 3.06), but block size has no similar effect. For the negative binomial model the odds ratio was 1.47, p<0.10. 2. Larger blocks seem to increase odds ratios for leisure walking by about 40% (OR=1.40; 95% CI=0.96, 2.05). 3. There are small positive correlations between mean and median accelerometer counts of total physical activity with straight-line and network distances to the nearest video store, hardware store, and pharmacy, although not to other destinations. Park distance was negatively correlated with accelerometer readings, however while the values were significant they were low (results not shown). 4. Using Spearman's correlations there was significant positive association with accelerometry physical activity and whether people spoke to others in their neighborhood, perceptions of crime, having places to go in walking distance from their home, hills, nearness to book stores and participant's job, and access to bicycle and pedestrian paths (although significant, r values were low with the highest being r=0.13 for closeness to job or school) (results not shown). 5. Regression models reveal high density areas are marginally associated with an increase in total walking and, in some cases, total physical activity for racial minorities, those without college degrees, the less healthy, and the obese (results not shown). 6. There are very few correlations with the 3 measures of total physical activity and these are all negative correlations with measures of retail (accelerometer mean; CE; -0.3488) and commercial uses (accelerometer mean; CE; -0.3473) (p<0.05). 7. Total walking in mean miles per day is positively correlated with sidewalks (length per unit area; CE; 0.4510; length divided by road length; CE; 0.3449), street lights (CE; 0.4874), traffic calming (CE; 0.3629), and several of our many measures of connected street patterns (signs vary) (p<0.05). 8. Notably absent were any positive correlations with mixed use-apart from a modest one with miscellaneous retail (CE; 0.3505, p<0.05). 9. Travel walking measured both by survey and diary was positively correlated with social land uses (IPAQ; CE; 0.4166; Diary; CE; 0.3379), sidewalks (length per unit (lpu)/IPAQ; CE; 0.4866; lpu Diary; CE; 0.6224; length/road(l/r) IPAQ; CE; 0.5282; l/r Diary; CE; 0.5945), transit (IPAQ; CE; 0.3716, Diary; CE; 0.4652), litter/graffiti (IPAQ; CE; 0.3325; Diary; CE; 0.5238) and connected street patterns (# access pts./IPAQ; CE; 0.5176, # pts/Diary; CE; 0.5384; intersections IPAQ; CE; 0.4052, int. Diary; CE; 0.5279; 4-way IPAQ; CE; 0.4602; 4-way Diary; CE; 0.5782; nodes IPAQ; CE; 0.4284, nodes Diary; CE; 0.4673; ratio 4-way IPAQ; CE; 0.4164, 4-way Diary; CE; 0.4698) (all p<0.05). 10. Leisure walking was negatively correlated with some of the same features; transit (IPAQ CE; -0.4882; Diary CE; -0.3360), sidewalks (length/road IPAQ CE; -0.3318), street lights, connected street patterns (IPAQ # access points CE; -0.3349; IPAQ connected nodes CE; -0.3643), social land uses (IPAQ CE; -0.5067), as well as tax exempt land uses (IPAQ CE; -0.4214) (all p<0.05).

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Catlin, Simoes (2003) Missouri	Perceived criminal safety ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Access to facilities for physical activity (indoor and outdoor, trails, parks) 2. Access to sidewalks and shoulders 3. Perceptions of traffic safety *Complex:* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 2370 adults completing the Missouri Cardiovascular Disease Survey ***PRIMARY OUTCOME:*** Overweight/obesity ***MEASURES:*** 1. Height and weight (body mass index [BMI]) 2. Missouri Cardiovascular Disease (MCD) Survey (self-reported weight and height, community perceptions [perceived criminal safety, traffic safety, pleasantness of neighborhood), community infrastructure [walking/ biking trails, parks, public outdoor exercise facilities, public indoor exercise facilities, the availability of fresh fruits and vegetables], worksite infrastructure [access to facilities and equipment for physical activity, time for physical activity, and availability of healthy food choices]). ***DATA COLLECTION:*** Participants were interviewed for the Missouri Cardiovascular Disease survey between July 1999 and January 2000. Community questions asked about sidewalks/ shoulders, walking/biking trails, parks, public outdoor exercise facilities, public indoor exercise facilities, and the availability of fresh fruits and vegetables. Worksite questions assessed access to facilities and equipment for physical activity, time for physical activity, and availability of healthy food choices. This survey included standardized questions on health status, demographics, and health behaviors from the Behavioral Risk Factor Surveillance Survey [BRFSS] (tobacco-use, fruit and vegetable consumption, exercise/leisure time physical activity). Questions pertaining to demographics, tobacco use, and physical activity from the BRFSS are well established regarding reliability and validity. Items on fruit and vegetable consumption are less reliable. A four level composite variable was computed for perceived community factors, with zero representing an environment that is crime safe, traffic safe, and pleasant. ***LIMITATIONS:*** Telephone surveys may underestimate low socioeconomic status, overweight, and obese individuals; possible participation bias; self-reported data may lead to response bias: cross-sectional data restricts the ability to apply causation	Adults 71% White, 27.3% Black, 1.8% other ethnicity, 35.2% overweight, 23.9% obese, 52% female (sample) Employed participants differed from the total sample in that there was a higher prevalence of men, younger age groups, post-high school education, and current smokers. A disproportionate stratified sampling design was used to randomly select households in the state of Missouri. Minority and lower-income zip codes in urban centers were oversampled. ***ELIGIBILITY:*** Participants were required to be 18 years or older and have a working telephone within their home. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** The research team from St. Louis University, the Missouri Department of Health, and Senior Services ***THEORY/ FRAMEWORK:*** Ecological framework ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** Not reported ***STRATEGIES:*** Not applicable	***OVERWEIGHT/OBESITY:*** 1. Compared with persons who met the recommendation for physical activity, those classified as insufficient, irregular or inactive were increasingly more likely to be overweight (data not shown). 2. Individuals who perceived their neighborhood or community to have 1, 2, or 3 negative characteristics were 14% (95% CI: 0.93-1.4), 23% (95% CI: 0.91-1.66), and 56% (95% CI: 1.06-2.28) more likely to be overweight, respectively, than individuals who perceived their neighborhood to be safe and pleasant. 4. The absence of public outdoor exercise facilities was significantly associated with overweight (OR=1.21; 95% CI: 1.00-1.45). 5. Employed persons with 1 or 2 negative community perceptions were 1.45 times more likely to be overweight (95% CI: 1.07-1.96 and 95% CI: 0.92-2.26, respectively). Those with 3 negative perceptions were 2.83 times more likely to be overweight (95% CI: 1.53-5.24). 6. Employed persons reporting the absence of sidewalks and shoulders were 1.74 times more likely to be overweight (95% CI: 1.26-2.40). 7. Persons who were given time to exercise at work were nearly 20% less likely to be overweight (OR=0.83; 95% CI: 0.63-1.09).

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Jago, Baranowski (2006); Jago, Baranowski (2005) Texas	Perceptions of neighborhood safety from crime and unattended dogs ***OTHER INTERVENTION COMPONENTS:*** *Multi-component* 1. Street connectivity and intersection density 2. Access to parks *Complex* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 210 Boy Scouts from 36 Troops in the Houston, TX area ***PRIMARY OUTCOMES:*** Physical activity, sedentary behavior, and walking/cycling behavior ***MEASURES:*** 1. Height and weight (Body Mass Index [BMI]) 2. Accelerometer (physical activity) 3. Demographic information (parental education and ethnic composition) 4. Systematic Pedestrian and Cycling Environmental Scan [SPACES] (walking and cycling ease, tidiness, sidewalk characteristics, street access and condition [within 400-m radius of residence]) 5. Perception of environmental characteristics (proximity to playgrounds, neighborhood safety and crime, presence or absence of features like sidewalks, presence of dogs) 6. Geographic Information Systems [ArcGIS] software (geocoded address, environment features, street connectivity [intersection density]) 7. Park Boundaries and Categorization (types of parks, boundaries, and present amenities) 8. Yellow pages, City Council and City Public Health records (location of gymnasiums, health clubs, and recreation centers, and the number of food establishments within a 1-mile radius of residence) 9. North American Industry Classification System [NAICS] codes (types of restaurants and grocery stores) 10. Local transit authority (all city transit stops [bus and light rail]) 11. US Census Bureau (block group data; residential density) 12. TETRAD ("Crime-risk" data set; prevalence of crime in the neighborhood) ***DATA COLLECTION:*** Accelerometers were attached to participants and worn for 3 consecutive days. Three observers attended a 6-day SPACES training session that began with categorization and progressed to coding city segments. Observers were required to achieve an agreement rate of at least 85% during training and attend a monthly retraining session. Residence was geo-coded and boundaries with a radius of 400 m were developed. Observers walked streets in either a south-to-north or west-to-east direction. Transit locations were geo-coded to provide an indication of participant access. ***LIMITATIONS:*** Small sample size was limited to one gender and a homogenous ethnic composition; only 2 days of completed accelerometry data were necessary for inclusion; accelerometry data, troop meetings, and thus observations occurred on different nights of the week, which may have limited the ability to detect relationships with physical activity	Male, 10-14 year olds (mean age=12.8), 69% Anglo-American, 3.3% African-American, 18.6% Hispanic, 9.1% other ethnicity (evaluation sample) ***ELIGIBILITY:*** Informed consent was obtained for all participants. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** The researchers were from University of Bristol and Baylor College of Medicine. ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** Robert Wood Johnson Active Living Research Program, American Cancer Society, US Department of Agriculture ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. Walking and cycling ease was positively associated with tidiness (r=0.198, p=0.004) and negatively associated with street access and condition (r= -0.197, p=0.005), parks (r= -0.136, p=0.05), and crime (r= -0.325, p<0.001). 2. Only sidewalk characteristics were associated with physical activity, with a positive association with light intensity physical activity (r=0.204, p=0.003) and a negative association with sedentary behavior (r= -0.199, p=0.004). 3. In the spatial regression model, sidewalk characteristics were significantly negatively associated with minutes of sedentary activity (t= -2.70, p=0.008), while age was positively associated (t= 2.25, p=0.025). 4. Sidewalk characteristics were positively (t= 2.85, p=0.005) and age negatively (t= -2.74, p=0.007) associated with minutes of light-intensity physical activity. ***OTHER (FACTOR LOADING VARIANCE):*** 5. Sidewalk characteristics were negatively associated with street access and condition (r=-0.292, p<0.001), parks (r=-0.198, p=0.004), and crime (r=-0.446, p<0.001). 6. Street access and condition was positively associated with self-reported environmental features (r=0.229, p=0.001). 7. Self-reported difficulty, and self-reported access and safety were positively correlated with each other (r=0.591, p<0.001). 8. Self-reported difficulty (r=0.224, p<0.05) and self-reported access and safety (r=0.230, p<0.001) were both positively associated with street access and condition. 9. Crime was positively associated with gyms (r=0.156, p=0.023).

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Wen, Kandula (2007) California	Perceptions of neighborhood and park safety ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Access to parks and playgrounds in the neighborhood *Complex:* 1. Neighborhood social cohesion	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 41,545 adults ***PRIMARY OUTCOME:*** Physical activity (PA) ***MEASURES:*** 1. 2003 California Health Interview Survey data (frequency and total duration of walking for transport and leisure in the past week, sociodemographic variables, social cohesion, availability of parks, playgrounds or open spaces near the home, and neighborhood and park safety) 2. Census data (neighborhood-level socioeconomic status) ***DATA COLLECTION:*** The authors used cross-sectional data from the 2003 California Health Interview Survey. The University of California Los Angeles Center for Health Policy Research provided access to the survey data, and the research team from the University of Utah completed secondary analysis on the data. Based on national physical activity recommendations, "walking at recommended levels" was defined as 5 or more sessions of walking (for transportation or leisure) in the previous week totaling at least 150 minutes. ***LIMITATIONS:*** Cross-sectional data limits the ability to make casual inferences; self-reported data may lead to response bias; study is based in California and the results are not necessarily generalizable to other locations	18 years and older 63% White, 6.4% Black, 17% Hispanic, 8.6% Asian, 4.4% Other and 13% Lower-income (evaluation sample) ***ELIGIBILITY:*** Eligible participants for the 2003 California Health Interview Survey were 18 years and older. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** The research team was from the University of Utah ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** American Cancer Society ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. Neighborhood social cohesion (OR=1.09, 95% CI=1.04, 1.14, p<0.001) and access to a park, playground, or open space (OR=1.26, 95% CI=1.16, 1.36, p<0.001) were both significantly associated with walking at recommended levels. 2. Neighborhood factors (i.e., social cohesion, avail. parks/playgrounds, safety) did not seem to mediate racial/ethnic differences in walking at recommended levels. 3. Access to a park, playground, or open space was positively correlated with walking at recommended levels among White (OR=1.29, 95% CI=1.15-1.45; p<0.001), Black (OR=1.64, 95% CI=1.16-2.32; p<0.001) and Hispanic (OR=1.21, 95% CI=1.02-1.44, p<0.05) respondents, but not with Asian respondents. 4. Neighborhood safety was not significantly associated with walking at recommended levels in any subgroup analysis. 5. Social cohesion was positively associated with walking at recommended levels among Whites (OR=1.06 95% CI=1.01, 1.12, p<0.001) and Hispanics (OR=1.14 95% CI=1.02, 1.27, p<0.05).

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Burdette, Whitaker (2004) Ohio	Perceptions of neighborhood safety ***OTHER INTERVENTION COMPONENT:*** *Multi-component:* 1. Proximity to nearest playground 2. Distance to fast food restaurants *Complex:* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 7,020 3-4 year-old children enrolled in the Women, Infants and Children program and residing in one of the 46 (of 52) Cincinnati neighborhoods for which crime statistics were available from the city police department. ***PRIMARY OUTCOME:*** Overweight/obesity ***MEASURES:*** 1. Ohio Women, Infants and Children Program database (height and weight [body mass index (BMI)], sociodemographic data, poverty ratio) 2. ArcView Geographic Information Systems (GIS) data (spatial location of residence, playground, and fast food, street travel distances) 3. Hamilton County Health Department database (distance from child's home to nearest playground) 4. Cincinnati Police Department's website [proxy for safety] (number of serious crimes [murder, rape, robbery, burglary, aggravated assault, larceny, and auto theft] and number of 911 police calls) 5. Yellow pages (distance from child's home to nearest fast food location) ***DATA COLLECTION:*** The research team used the Ohio WIC database for child demographics and used most recent WIC visit to calculate BMI. Data from the Hamilton County Health Department playground inventory database, containing 394 playgrounds, were collected for the city and surrounding county. Researchers identified 8 fast food chains using criteria: a) had franchises nationwide or multiple states, b) had more than one franchise in Cincinnati, c) served complete meals ordered without the assistance of waiters or waitresses, and d) provided facilities for consumption of meals on site. Using yellow pages from the internet and phone book (spring 2001) the research team identified the addresses for 151 fast food franchises. ***LIMITATIONS:*** Study did not account for any variation in playground quality or yard space at the child's residence; there is no consensus definition for a fast food restaurant that has been applied in research; the study didn't use parental perception of safety; there was a lack of variation in environmental exposure variables; categorizing exposures at the neighborhood level might not lead to the most accurate classification of the exposure; the mobility of the study population may have limited the accurate assessment of all 3 of the environmental exposures used in this study	3-4 year-olds 100% Lower-income 76% Black, 23% White (evaluation sample) ***ELIGIBILITY:*** Eligible children made at least one WIC clinic visit between 1/1/98 and 6/30/01; resided in the city of Cincinnati;and were between 36 and 59 months of age at their visit. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** The research team ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** The evaluation was funded by the US Department of Agriculture, Economic Research Service. ***STRATEGIES:*** Not applicable	***OVERWEIGHT/OBESITY:*** 1. There was no difference in mean distance to the nearest playground or fast food restaurant when comparing children with a BMI ≥95th percentile to those with a BMI<95th percentile (playground: t=0.31 both, p=0.77; fast food: t=0.70 and 0.69, respectively, p=0.91) and when comparing children with a BMI ≥ 85th percentile to those with a BMI < 85th percentile (playground: t=0.31 both, p=0.32, fast food: t=0.69 and 0.70, respectively, p=0.43). 2. There was no significant correlation between children's BMI z scores and distance to the nearest playground or fast food restaurant. 3. When comparing overweight and non-overweight children, there was no difference in the percentage living in neighborhoods without playgrounds (3.3% vs. 4.1%, p=0.29) nor in the percentage living in neighborhoods without fast food restaurants (44.0% vs. 44.5%, p=0.84). 4. The prevalence of children with BMI ≥ 95th percentile and BMI ≥ 85th percentile did not differ statistically across the quintiles of neighborhood crime rate, but did differ significantly for 911 call rate. Percent BMI ≥95th percentile ranged from 10.7% in the lowest quintile to 9.4% in the highest quintile (p=0.04). Percent BMI ≥85th percentile ranged from 22.7% in the lowest quintile of call rate to 22.1% in the highest quintile (p=0.02). There was no clear trend suggesting that lower levels of neighborhood safety were associated with a higher prevalence of overweight. 5. After controlling for poverty ratio (as a measure of SES), child race, and child sex, the 3 environmental predictor variables (playground proximity, fast food restaurant proximity and neighborhood safety) were still not significantly associated with childhood overweight.

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Babey, Hastert (2008) California	Perceptions of safe parks ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Population density, distance to, and access to open spaces and parks *Complex:* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 4010 adolescents (aged 12-17 years) who responded to the 2003 California Health Interview Survey ***PRIMARY OUTCOME:*** Physical activity ***MEASURES:*** 1. California Health Interview Survey data (self-reported walking distance to park or open space from home, housing type, neighborhood safety, family income, age, gender, and race/ethnicity) 2. Urbanicity (population density of adolescent's zip code) ***DATA COLLECTION:*** Data were from the 2003 California Health Interview survey. This analysis was conducted from 2005-2006. Regular physical activity was defined as completing at least 20 minutes of vigorous activity on 3 or more of the last 7 days, or at least 30 minutes of moderate activity on 5 or more of the last 7 days. Physical inactivity was defined as less than 20 minutes of vigorous activity or 30 minutes of moderate activity in the last 7 days. Housing type, neighborhood safety and family income were reported by the adult respondent. ***LIMITATIONS:*** Data was self-reported; physically active adolescents were not asked where parks were located	12-17 year olds ***ELIGIBILITY:*** Not reported ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** The research team from the Center for Health Policy Research and the Department of Health Services, School of Public Health, University of California at Los Angeles ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** Robert Wood Johnson Foundation and The California Endowment ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. Stratified analyses revealed that access to a safe park was positively associated with regular activity (relative risk [RR]= 1.10, 95% CI=1.01-1.17, p<0.05) and negatively associated with inactivity (RR=0.58, 95% CI=0.39-0.86, p<0.01) for adolescents in urban areas, but not rural areas. 2. In stratified analyses, adolescents with access to a safe park were less likely to be inactive than those without access for example; (1) adolescents living in apartments (RR= 0.52, 95% CI=0.28-0.96, p<0.05) but not houses, (2) adolescents living in neighborhoods perceived as unsafe (RR= 0.47, 95% CI=0.23-0.93, p<0.05) but not those living in safe neighborhoods, and (3) adolescents from lower-income (RR= 0.62, 95% CI=0.39-0.97, p<0.05) but not higher income families. However, access to a safe park was not significantly associated with regular activity for these groups.

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Gomez, Johnson (2004) Texas	Perceptions of neighborhood safety from crime ***OTHER INTERVENTION COMPONENTS:*** *Multi-component* 1. Access to recreational facilities 2. Distance to facilities *Complex* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 177 students in 7th grade from 4 middle schools and 1 private school in a San Antonio neighborhood ***PRIMARY OUTCOME:*** Physical activity ***MEASURES:*** 1. Recall questionnaire (physical activity [activities done more than 10 times in past 12 months not including those done in physical education class, months in which activities were performed, number of days each activity was performed, outdoor activities outside of school], demographic information, participant address, perceived barriers to physical activity, perceived neighborhood safety). 2. San Antonio Newspaper Police blotters (crimes [e.g., robbery] the San Antonio Police Department [SAPD] responded to during the previous 24 hours, crime street address or block number, count for violent crimes) 3. Maps (crime densities) 4. Drafting compass (distance on the map from residence to an open play area [any area readily accessible for use by the public]) 5. Censtats Information Census (census tract level; estimate of per capita income) ***DATA COLLECTION:*** Data for the present study came from the Project Physical Activity Changes in Teenagers (PACT) study. Participants completed questionnaires during school hours in small groups of 10-15. A second investigator was present to give individual help in completing the questionnaire. Both Spanish and English language versions of the physical activity questionnaire were available. Participants, whose primary language was Spanish, were administered the survey separately. Both the newspaper and the SAPD verified the completeness of the information contained in the police blotters. The recall questionnaire was previously developed and validated for adolescents for measures for physical activity. OPA was defined as outdoor physical activity. ***LIMITATIONS:*** Small sample of 7th graders; small sample of boys; lack of information on sports participation; lack of information on other environmental factors	Urban, Hispanic, 11-13 year olds (target) 94% Mexican-Americans, 2% Non-Hispanic Whites, 3% African-Americans, and 1% Other ethnicity, 97.7% Minority, Annual income ranged from $3927 to $15,887 (evaluation sample) The barrio is inhabited primarily by Mexican-Americans and is characterized by lower-income household and high crime rates. The racial/ethnic composition of the study sample closely matched that of the school district to which the study schools, except the private school, belong, with 91% of the students in the district being Mexican-American ***ELIGIBILITY:*** A written consent form was signed by a parent or guardian. All 7th graders attending one of four middle schools and one private school in the barrio were asked to participate in Project PACT. ***EXPOSURE/ PARTICIPATION:*** Sample size for this study only comprised 33% of the students from the 5 schools. Approximately 536 students from the 5 schools are exposed to the same environmental conditions.	***LEAD AGENCY:*** The research team was from the University of Texas at San Antonio, the Medical College of Wisconsin, and San Diego State University. ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** Generalist Physician Faculty Scholar Award from the Robert Wood Johnson Foundation. ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. Stepwise multiple regression analysis for the entire group revealed none of the environmental factors were significantly associated with outdoor physical activity (OPA). 2. As distance to the nearest open play area increased, OPA for boys decreased significantly (β=-0.317, T= -2.823, p=0.006). 3. For girls, as violent crime within 1/2 mile of home increased, OPA significantly decreased (β= -0.34,T= -0.3.568, p<0.001) (accounted for 9.4% of variances in girls' OPA). While the perception of feeling safe in the neighborhood increased, OPA also increased significantly (β=0.223, T=2.343, p=0.021). ***OTHER:*** 4. Post hoc analysis showed no significant correlation between objectively measured violent crimes/year within 1/2 mile radius of participants' homes and participants' subjective assessments that the safety of the neighborhood was a barrier to physical activity.

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Romero, Robinson (2001) California	Neighborhood perceptions of safety from crime ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Access to parks 2. Neighborhood perceptions of traffic safety *Complex:* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 796 students from 8 elementary schools ***PRIMARY OUTCOMES:*** Overweight/obesity and physical activity ***MEASURES:*** 1. Height and weight (body mass index [BMI]) 2. 20 meter (m) shuttle run test (physical fitness) 3. Child Questionnaires (sex, date of birth). 4. Modified Self-administered Physical Activity Checklist [SAPAC] (duration of child participation in common activities after school). 5. Adapted Hazards Scale (neighborhood perceptions of: traffic, trash and litter; crime, drugs, and gangs; too much noise; lack of access to parks; and prejudice). 6. Adapted subscale of the Bidimensional Acculturation Scale for Hispanics (language preference, categorization [traditional, marginalized, assimilated, and bicultural]) 7. School district data (pan-ethnic labels for all children) 8. Parent interviews (sex, specific ethnic label, education, socioeconomic status [SES; occupation]) 9. Hollingshead categories (parents' occupations) ***DATA COLLECTION:*** Students were assigned a special identification number that was used for tracking rather than using individual name. Surveys were prepared in English and Spanish or English and Vietnamese. All physical measures of participating children were obtained at stations set up in the classroom or at a nearby outdoor area. All parent and child assessments were completed within the same 2-month period. Parent occupation was coded into the Hollingshead categories and then dichotomized into lower and higher SES levels using the midpoint of the scale. Child neighborhood perceptions were assessed using a 3-point Likert-type scale; 1 was equivalent to not being problematic and 3 was related to large problems. Child activity during the previous day was rated as none and less or more than 10 minutes; agreement for this scale had been tested at 86% using direct observation to test. Child acculturation was based on language preference when at home, with friends, and watching television. In this sample, the internal consistency of the Adapted Hazards scale was a =0.76. ***LIMITATIONS:*** Degree of perceptions for hazards as a barrier were not assessed; causal inferences cannot be assessed using a cross-sectional study design; not all neighborhood barriers were examined; cost and quality of available locations for physical activity or organized sports were not assessed; parents' perceptions and how they influence child activity need to be assessed; the SAPAC may be problematic for many assessment situations; survey data was self-reported; it is possible that a demand bias exists; generalizability of this study is unclear	5-10 year olds, (Mean=9 [±0.37] years, 50% Male, 49.9% Latino, 32.9% Asian, 8.1% Pacific Islander/Filipino, 5.5% European American, and 3.6% African American, 59% Lower socioeconomic status (evaluation sample) Differences between the sexes were found for the measure of physical fitness (t234= -4.18, p<0.001); boys ran more laps than girls (mean =17.61±11.2 laps and 14.66±7.58 laps, respectively). Children of lower SES reported more neighborhood hazards (mean=13.51±3.83) than children of higher SES (mean=12.73±3.48). School differences were found for ethnicity (X^2=85.84; p<0.001), SES level (X^2=46.35; p<0.001), and BMI (F=2.58; R^2=0.02; p=0.01). ***ELIGIBILITY:*** All fourth-grade students (N=845) enrolled in 8 northern California elementary schools were eligible to participate in the study. A passive-consent procedure was used. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** Researchers were from the Mexican American Studies and Research Center, University of Arizona, Stanford Center for Research in Disease Prevention, Stanford University and the University of New Mexico. ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Pretesting allowed researchers to modify the SAPAC to include only after-school activities, add more common activities, and simplify the response process. ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** Funding was provided by a grant from the National Cancer Institute. ***STRATEGIES:*** Not applicable	***OVERWEIGHT/OBESITY:*** 1. Higher BMI was associated with the perception of fewer neighborhood hazards for children of lower SES (r= -0.13, p<0.05); this correlation was significant but low. ***PHYSICAL ACTIVITY:*** 2. Contrary to the hypothesis, the perception of more neighborhood hazards was positively correlated with more reported physical activity (r=0.13, p<0.001) 3. Although increased self-reported physical activity was associated with increased BMI (r=0.09, p<0.05), BMI was significantly negatively associated with physical fitness (r=-0.36, p<0.001); as BMI increased, physical fitness decreased. 4. For both SES levels, as physical fitness increased, BMI decreased, as expected (low SES r=-0.36, p<0.001; high SES r=-0.36, p<0.001) 5. For children of higher SES, the perception of more neighborhood hazards was associated with more reported physical activity [r=0.18, p<0.05].

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Suminski, Poston (2005) Midwestern United States	Perceptions of neighborhood safety from crime ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Perceptions of neighborhood traffic safety 2. Access to parks 3. Access to shops 4. Neighborhood aesthetics *Complex:* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 474 participants from a large, Midwestern metropolitan area (one region was selected to represent the entire nation of the country, with the exception of the Netherlands where sample represented the whole population) ***PRIMARY OUTCOME:*** Walking behavior ***MEASURES:*** 1. Questionnaire (frequency and duration of walking behavior, forms of physical activity, physical environment [construction/integrity of sidewalks and streets, neighborhood traffic volume and speed, lighting, crime, aesthetics, availability of shops, parks, work, and schools], demographic data, dog ownership) 2. County Auditor Records (list of participants and locations) ***DATA COLLECTION:*** Door-to-door interviews were conducted by trained interviewers in 2003 over a 13-day period in July. An analysis was conducted in 2004. Men and women were analyzed separately. For the interview, intra-class correlations for the physical environment questionnaire ranged from 0.85 to 0.94, and the Cronbach's alpha coefficient of internal consistency was 0.83. The scores from each of the items were summed and divided by the number of items per feature to yield an average score. The average feature scores were transformed into categorical variables with three levels - the lowest, middle, and highest tertiles. The questionnaire used was reliable (correlation coefficient r=0.58) and valid (relationship with physical activity log; correlation coefficient r=0.71) for assessing walking behavior and other forms of physical activity. Neighborhood "safety" was a composite score using traffic volume and speed, lighting, and crime. ***LIMITATIONS:*** Questionnaire data was self-reported; environment data was based on perception rather than objective measures; cross-sectional study design does not allow for causal inferences to be made	Adults 89.7% White, 1.7% Hispanic, 1.5% African American, and 1.3% Asian American (evaluation sample) ***ELIGIBILITY:*** Eligible participants resided in the interview neighborhood were 18 years of age and older and were not physically limited because of a health condition. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** Researchers were from Ohio State University, University of Missouri-Kansas City, and the Mid-America Heart Institute ***THEORY/ FRAMEWORK:*** Social ecologic models ***EVIDENCE-BASED:*** Findings from cross-sectional and longitudinal investigations suggest that features of the physical environment are related to walking (multiple references). ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** Funding for this study was provided by the Centers for Disease Control and Prevention. ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. Women were 4.5 times more likely to walk for exercise in their neighborhood if neighborhood safety was average compared to below average (95%CI=1.01-20.72; p<0.05). 2. Women were more likely (threefold) to walk their dog if neighborhood safety was average versus below average (95% CI=1.01-11.08; p<0.05). 3. Women were 5.7 times more likely to walk for transportation if they indicated having an average number of available places in and around their neighborhood to which they could walk (95%CI=1.63-19.73; p<0.01). 4. For men, environmental features were not associated with walking the dog or for exercise. However, inverse relationships between walking for transportation and environmental features were noted in men. 5. Men were less likely to walk for transportation in the neighborhood if the functional (OR=0.22, 95%CI=0.06-0.89) or aesthetic (OR=0.17, 95%CI=0.03-0.89) features of the neighborhood were average versus below average (p<0.05). 6. Women with an average number of neighborhood destinations were more likely to walk for transportation in the neighborhood (OR=5.7, 95% CI=1.63-19.73) than women with a below average number of neighborhood destinations (p<0.01).

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Motl, Dishman (2005) South Carolina	Neighborhood perceptions of safety and crime ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Perceptions of safety from traffic 2. Access to local parks, playgrounds and gyms *Complex:* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 1038 eighth and ninth grade participants from 12 control high schools (and their associated middle schools) from an intervention ***PRIMARY OUTCOME:*** Physical activity ***MEASURES:*** 1. Questionnaire (n=856 baseline) (perceived environment [home equipment for physical activity], proximity to playgrounds, parks, or gyms, interpersonal safety [unattended dogs, gangs, and crime], traffic safety, self-efficacy for overcoming barriers, barriers [sidewalk, etc.]) 2. 3-Day Physical Activity Recall [3DPAR] (frequency, duration, intensity, and type of physical activity) ***DATA COLLECTION:*** Data used for the present study came from results of a school based intervention. The measures were administered by trained data collectors in the spring semesters of 1999 (baseline) and 2000 (follow-up). Items for self-efficacy had an internal consistency of Cronbach coefficients; 0.78 and 0.79 for the baseline and follow-up data, respectively. Recall physical activity behavior was analyzed for 3 days of the week (first Tuesday, then Monday, then Sunday). To improve the accuracy of physical activity recall, the 3 days were segmented into thirty four 30-minute time blocks, beginning at 7:00 am and continuing through to 12:00 am. To help students select a relative intensity, the instrument included illustrations depicting activities representative of the various intensities. Based on the specific activity and level of intensity, each 30-minute block was assigned a metabolic equivalence (MET) value. The MET values were summed over each of the 3 days. The validity of the 3DPAR as a measure of usual activity has been established based on correlations with an objective measure of physical activity derived from accelerometry. The correlations between MET values and total counts were 0.51 and 0.46 for 7 and 3 days of accelerometer monitoring, respectively. ***LIMITATIONS:*** Scales with few items likely suffer from issues of weak content aspects of score validity and poor internal consistency; a limited set environmental influences were sampled; one limitation is the use of self-report measures of study variables	13.6 ± 0.6 years (mean age), Female, 40.6% African-American, 38.9% Caucasian, 3% Other, 17.5% Not reporting racial composition (evaluation sample) ***ELIGIBILITY:*** Not reported ***EXPOSURE/ PARTICIPATION:*** 24 high schools were part of the intervention with a total of 1964 girls.	***LEAD AGENCY:*** Researchers were from the University of Illinois, University of Georgia, University of North Carolina, and the University of South Carolina. ***THEORY/ FRAMEWORK:*** Social cognitive perspective ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** This research was supported by a grant from the National Heart, Lung, and Blood Institute. ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. With the baseline data, there was a statistically significant relationship from equipment accessibility to physical activity (gamma=0.33), but not from neighborhood safety to physical activity (gamma=-0.03). 2. The path between the same latent variables across time (i.e., stability coefficients) were statistically significant for equipment accessibility (gamma=0.42), neighborhood safety (gamma=0.59), and physical activity (β=0.46). There were statistically significant correlations among the environmental variables at baseline (phi=0.50). 3. With the baseline data, there was a statistically significant relationships from equipment accessibility to self-efficacy (gamma=0.64), but not from neighborhood safety to self-efficacy (gamma=-0.14). There was a statistically significant relationship from self-efficacy to physical activity (β=0.35), but not from equipment accessibility to physical activity (gamma=0.13) or neighborhood safety to physical activity (gamma =0.01). Hence, self-efficacy mediated the effect of equipment accessibility on physical activity (indirect effect=0.22) in the baseline data. 4. There were statistically significant correlations among the environmental variables at baseline (phi=0.47).

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Adkins, Sherwood (2004) Minnesota	Perceptions of neighborhood safety ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Access to facilities for physical activity *Complex:* 1. Social factors (self-efficacy and family support)	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 52 girls and their primary caregivers ***PRIMARY OUTCOME:*** Moderate-to-vigorous physical activity (MVPA) ***MEASURES:*** 1. Height and weight (body mass index [BMI]) 2. Accelerometers (physical activity) 3. Psychosocial survey (physical activity; self-efficacy, support; and family and neighborhood environment, perception of safety and access to activity facilities) ***DATA COLLECTION:*** The data used in this study were collected during baseline clinic visits for a 12-week pilot study known as the Girls Health Enrichment Multi-site Studies (GEMS). The GEMS project implemented interventions in multiple locations; this particular pilot was conducted in an after-school setting. Anthropometric data was collected twice and averaged by trained staff. The accelerometer was worn for 3 days and the number of minutes of moderate-to-vigorous physical activity from 12pm-6pm were summed and averaged to obtain an activity value. Minutes of moderate-to-vigorous physical activity were based on childhood cut-off points of >3,200 counts/minute. (Activity count ICC=0.87; correlated with energy expenditure r=0.86 and 0.87, p<0.001). The psychosocial survey was given to girls and parents separately during a clinic visit. Questions were rated and calculated using a Family Environment Scale. ***LIMITATIONS:*** There was a limited sample size; the cross-sectional study design does not allow for causal inferences to be made; surveys requested information on safety but did not include specifics related to what type of area; it is possible that the perception instruments were not sensitive to cultural and age differences and therefore were not able to capture certain information	8-10 year olds, Black, Female (average age:8.8[±0.9]) ***PARENT COMPOSITION:*** African-American (83%), Bi-racial (4%), and White (13%). ***ELIGIBILITY:*** Parents provided consent and girls provided assent. ***EXPOSURE/ PARTICIPATION:*** Not reported	***LEAD AGENCY:*** Researchers were from the Health Partners Research Foundation, MN, the University of Minnesota, Vanderbilt University, and California Department of Health Cancer Prevention and Nutrition Section. ***THEORY/ FRAMEWORK:*** Activity-related psychosocial measures were based on social cognitive theory. ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** This research was funded by a grant from the National Heart, Lung, and Blood Institute, at the National Institutes of Health. ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. Perceived neighborhood safety and access to facilities for physical activity, as reported by the parent and daughter and the family environment reported by the parent, were not related to girl's activity level. 2. BMI was inversely correlated with moderate-to-vigorous physical activity (r= -0.35, p<0.01), whereas parent's self-efficacy for supporting daughter to be active was positively correlated with activity (r=0.45, p<0.001). 3. There was a trend for parent's reported support of daughter's activity level to be associated with activity (r= 0.26, p<0.06).

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Handy, Cao (2008); Handy, Cao (2006) California	Perceptions of safety (crime) ***OTHER INTERVENTION COMPONENTS:*** *Multi-component* 1. Access to physical activity resources in the community 2. Distance to places of business and land-use diversity 3. Street connectivity and neighborhood aesthetics *Complex* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 1682 adult "movers" and "non-movers" from 8 neighborhoods ***PRIMARY OUTCOME:*** Walking and biking behavior ***MEASURES:*** 1. 12-page survey (sociodemographic data, mobility constraints, residential tenure, frequency of transport and leisure walking and walking to specific destinations in the past 30 days, change in walking and biking before the move [for movers] or from one year ago [for non-movers], perceptions and preferences for accessibility, activity and socializing opportunities, attractiveness, presence of outdoor spaces, and safety [crime, lighting], travel attitudes [pro-bike/walk, pro-transit, pro-travel, travel minimizing, safety of car, car dependency], frequency and intensity of activity in past week) 2. Geographic Information Systems [GIS] data (geo-coded residential address, street network distance from residence to destination) 3. New Neighborhoods Contact service (2 residential databases for names of "movers" and "non-movers") 4. Yellow pages (commercial destinations; institutional [e.g., church], maintenance [e.g., grocery store], eating out [e.g., bakery], and leisure [e.g., health club]) ***DATA COLLECTION:*** The New Neighbors Contact Service databases identified "movers" and "non-movers" to traditional neighborhoods (built in pre-World War II) and suburban (built more recently) neighborhoods. Database contacts were mailed 2 rounds of questionnaires at the end of September 2003. In November, a second copy of the survey was sent to non-responders. Surveys questions were developed using previous research projects and items from the International Physical Activity Questionnaire, which was then pretested with UC Davis students, staff, and area residents. A reliability test for frequency of neighborhood physical activity (NPA) produced an intra-class correlation coefficient (ICC) of 0.20 (n=23). Reliability testing for the change in physical activity over the last year produced an ICC of 0.89 (n=16). ***LIMITATIONS:*** Data was self reported; causality cannot be determined using cross-sectional data; total activity perceptions, and duration and intensity of activity were not assessed; neighborhood preference was measured retrospectively; there was temporal inconsistency between the two groups; there was no differentiation between home and neighborhood exercise; biking and walking substitute for one another; may have been response bias; there is a need to separate direct and indirect effects of attitudes on physical activity behavior; this analysis did not account for individual qualities or subsets of qualities of the built environment	Adults, General population, Urban, Suburban (target sample) According to the 2000 US Census the evaluation sample tended to be older on average than neighborhood residents and the percent of households with children is lower among the evaluation sample for most neighborhoods. Median household income for the evaluation sample was higher than the census median for all but one neighborhood. ***ELIGIBILITY:*** Eligible participants had to have addresses that could be geo-coded. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** Researchers were from the University of California-Davis. ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** University of California, Davis-Caltrans Air Quality Project, Robert Wood Johnson Foundation, and the University of California Transportation Center ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. Objective measures for minimum distance to a bank (coefficient=0.082, p=0.035), number of banks within 800 meters (m) (coefficient=0.091, p=0.005), and number of types of businesses within 1600m (coefficient=0.073, p=0.040) were positively associated with increased walking. 2. Individuals living in mixed-use neighborhoods (coefficient=0.0471, p=0.017) and living farther from health clubs (coefficient=0.0561, p=0.004) had higher neighborhood physical activity. 3. Individuals with higher perceptions of physical activity options (coefficient=0.0395, p=0.083), the social environment (coefficient=0.0447, p=0.026), attractiveness (coefficient=0.0866, p<0.001), and stores within walking distance (coefficient=0.0549, p=0.004) engaged in neighborhood physical activity more frequently. 4. Respondents who preferred to be physically active (coefficient=0.118, p=0.004) and had stores within walking distance (coefficient=0.168, p<0.001) walked to the store more frequently. Respondents who preferred to be safe (coefficient=-0.102, p=0.008) and have cul-de-sacs (coefficient=-0.065, p=0.084) walked less frequently, suggesting a self-selection effect. After controlling for these effects, distance to potential destinations, both objective (coefficient=-0.144, p<0.001) and perceived (coefficient=0.268,p<0.001),) remained positively associated with neighborhood walking. Perceived safety (coefficient =-0.071, p=0.029) remained negatively associated with walking and attractiveness (coefficient=0.078, p=0.038) remained positively associated. 5. A significantly higher share of residents in traditional neighborhoods reported walking to a store at least once in the last 30 days compared to suburban neighborhoods (data not shown). Over 86% of residents in traditional neighborhoods strolled at least once in the last 30 days versus 79% of residents in suburban neighborhoods, with an average frequency of 10.1 strolls compared to 7.7 strolls. *(continued next page)*

(Continued from previous study)						
						6. Compared to suburban residents, residents in traditional neighborhoods perceived their neighborhoods on average as having higher accessibility (mean=0.15 vs. mean=-0.18, p<0.01), opportunities for socializing (mean=0.09 vs. mean=-0.12, p<0.01), and attractiveness (mean=0.28 vs. mean=-0.33, p<0.01). Residents in suburban neighborhoods on average perceived their neighborhoods as having greater safety (mean=0.16 vs. mean=-0.14, p<0.01) and outdoor spaciousness (mean=0.06 vs. mean=-0.05, p=0.02). 7. Changes in perceptions of physical activity options (NPA coefficient=0.0586, p=0.046; walking coefficient=0.103, p<0.001), attractiveness (NPA coefficient=0.151, p<0.01), accessibility (walking coefficient=0.103, p<0.001), socializing (NPA coefficient=0.0549, p=0.052; walking coefficient=0.14, p<0.001), and current safety (NPA coefficient=0.0672, p=0.025; walking coefficient=0.15, p<0.001) were associated with increased neighborhood physical activity and walking. 8. Travel-minimizing attitude (coefficient=-0.077, p=0.014), pro-transit attitude (coefficient=-0.121, p<0.001), and preference for spaciousness (coefficient=-0.111, p=0.002) were all negatively associated with changes in biking, while attractiveness preference (coefficient=0.074, p=0.019) was positively associated. 9. The current number of household maintenance businesses within 1600 m (coefficient=0.090, p=0.012) and the minimum distance to a health club had (coefficient=0.071, p=0.045) positive effects on changes in biking. More results are in the text related to sociodemographic factors, physical and psychological limitations, and pro-walking/biking attitudes related to neighborhood physical activity.

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Boehmer, Lovegreen (2006) Arkansas, Missouri, Tennessee	Perceptions of safety from crime ***OTHER INTERVENTION COMPONENTS:*** *Multi-component* 1. Access to recreational facilities 2. Land-use mix and distance to grocery stores 3. Condition of walking routes including sidewalks and shoulders and aesthetically pleasing environment 4. Perceptions of neighborhood traffic safety 5. Access to fruits and vegetables, and access to grocery stores *Complex* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 2210 adults from 13 rural communities in Arkansas, Missouri, and Tennessee ***PRIMARY OUTCOME:*** Overweight/obesity ***MEASURES:*** 1. Weight and height (body mass index [BMI]) 2. Survey (moderate-to-vigorous physical activity [MVPA], walking behavior, sedentary leisure-time activity, perceived recreational facilities, land use, barriers related to traffic safety and crime, aesthetics, food environment, demographic characteristics, presence of quality sidewalks and shoulders on streets, availability of fruits and vegetables) ***DATA COLLECTION:*** The present study used data from a previously administered survey that used a modified version of the BRFSS and was collected between July and September 2003. Demographic characteristics and moderate and vigorous physical activity were measured using standard BRFSS questions with established psychometric properties. Open-ended environmental perception items were calculated using a four-level, ordinal response scale, with most items having been tested for reliability. MVPA was stratified into 3 categories; meeting recommendations, insufficient activity, and not active. BMI and MVPA were combined to create risk categories. The lowest risk group was defined as normal weight and active (recommended MVPA) and the highest risk group was defined as obese and inactive (insufficient and not active). ***LIMITATIONS:*** Causal inferences cannot be achieved using cross-sectional data; the study did not account for selection bias or response bias; social, intrapersonal, and biological factors that interact with environmental factors were not accounted for; non-response bias may limit the representativeness of the sample; the sample over-represented women and older individuals and cannot accurately estimate the prevalence of obesity in the study population; there was a small sample size for some subgroups	Adults, 74.4% female, 93.4% white, 36.8% income <$25,000, 59.1% income >$25,000; 27% obese; 31% overweight (evaluation sample) Eight communities met the US Census definition of rural; 12 were located within a nonmetropolitan county. The communities in TN and AR were selected to match the MO sites on size, race/ethnicity, and proportion of the population living below the poverty level. ***ELIGIBILITY:*** Communities with established walking trails were eligible for participation. Households within those communities within a 2-mile radius of the existing walking trails were eligible. English speaking adults were eligible to participate. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** Researchers were from Saint Louis University (evaluation) ***THEORY/ FRAMEWORK:*** Ecological framework ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** National Institutes of Health ***STRATEGIES:*** Not applicable	***OVERWEIGHT/OBESITY:*** *Stratified Analysis:* 1. Neighborhood perceptions of a lack of places to be physically active (OR=1.46, 95% CI=1.1-1.94), no available equipment (OR=1.55, 95% CI=1.19-2.02), few or moderate number of destinations within close proximity (3-6 destinations: OR=1.49, 95% CI=1.08-2.06; 1-2 destinations: OR=1.42,95%CI= 1.03-1.97), feeling unsafe from crime (OR=2.09, 95%CI= 1.5-2.92, p<0.05), feeling unsafe from traffic (OR=1.65, 95%CI=1.2-2.27, p<0.05), finding the community somewhat pleasant (OR=1.44, 95%CI= 1.13-1.92) or not pleasant (OR=1.85; 95%CI=1.31-2.59, p<0.05), and having an unmaintained community (OR=1.48, 95%CI=1.09-1.99) were all associated with being obese. 2. Neighborhood perceptions of having no or a few destinations within close proximity (3-6 destinations: OR=2.03, 95%CI= 1.33-3.09; 1-2 destinations: OR=1.72,95%CI= 1.13-2.62; none: OR=1.63, 95%CI= 1.07-2.5), feeling unsafe from crime (OR=2.91, 95%CI= 1.86-4.55, p<0.05), feeling unsafe from traffic (OR=2.46, 95%CI= 1.63-3.71, p<0.05), and finding the community somewhat pleasant (OR=1.73, 95%CI= 1.28-2.34) or not pleasant (OR=2.02, 95% CI= 1.29-3.15, p<0.05) were all associated with being obese/inactive. 3. Women had stronger associations between obesity and indicators of poor aesthetics (OR= 1.3, 95% CI= 1.0-1.7 for interesting things; OR= 1.7, 95% CI= 1.2-2.3 for well-maintained) and feeling slightly/not at all safe from crime (OR= 2.4; 95% CI=1.6-3.5). 4. Having no sidewalks or shoulders on most streets was not significantly associated with obesity nor was the availability and quality of fresh fruits and vegetables. Further distance to the nearest supermarket was associated with increased odds of obesity (OR: 1.8, 95% CI= 1.3-2.4). 5. Perceived lack of equipment for physical activity was associated with being obese (OR= 1.8, 95% CI=1.3-2.4) and obese/inactive (OR= 1.8, 95% CI=1.2-2.7) among only women. *Multivariate Analysis:* 6. Furthest distance (>20 minutes) to the nearest recreational facility (OR=1.53, 95% CI=1.1-2.11) and feeling unsafe from crime (OR=1.71, 95% CI=1.19-2.46) were neighborhood environmental perceptions associated with being obese. 7. Furthest distance (>20 minutes) to the nearest recreational facility (OR=2.74, 95% CI=1.68-4.48), having 3-6 destination types near home (OR=1.76, 95% CI=1.09-2.84), and feeling unsafe from crime (OR=2.59, 95% CI=1.56-4.28) were neighborhood environmental perceptions associated with being obese.

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Franzini, Elliot (2009) United States	Neighborhood physical disorder ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Residential density and land-use mix 2. Neighborhood traffic safety *Complex:* 1. Social support	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 544 fifth grade students and their primary caregivers from the metropolitan area of 3 cities (Birmingham, Los Angeles, Houston) ***PRIMARY OUTCOME:*** Physical activity ***MEASURES:*** 1. Height and weight (body mass index [BMI]) 2. Youth Behavior Survey compiled by the Centers for Disease Control and Prevention (frequency, duration, and intensity of physical activity) 3. Direct observation (neighborhood traffic, physical disorder, residential density) 4. Face-to-face interview with parents (sociodemographic data, neighborhood perceptions of social processes [social cohesion, informal social control, socialization of children, social ties] neighborhood safety) ***DATA COLLECTION:*** Data was collected as part of phase 1 of Healthy Passages, a multisite, community-based study on children's health between May and September of 2003. The child and parent each completed (in English or Spanish) a face to face computer assisted personal interview and an audio computer self-interview with and without the interviewer. Neighborhood data combined physical observations collected by trained observers and parent's neighborhood perceptions. ***LIMITATIONS:*** The study design was cross-sectional which does not allow for causal inferences to be made.	5-10 year olds, 76% Minority, 30% Hispanic, 38% Black, 55% Female, 41% Overweight, most lived in urban areas (evaluation sample) ***ELIGIBILITY:*** All 5th grade students enrolled in public schools with at least 25 students in the class, in the 3 cities were included in the study. Written parental consent was required. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** Researchers from the University of Texas, University of California- Los Angeles, RAND Corporation, Children's Hospital Boston, Harvard Medical School, University of Alabama and Centers for Disease Control and Prevention ***THEORY/ FRAMEWORK:*** Social Determinants of Health and Environmental Health Promotion model ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** Research was supported by Centers for Disease Control and Prevention cooperative agreements ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. The structural model for the ordinal measure of child obesity (underweight or normal weight, overweight, obese) suggested that neighborhood physical environment had no significant association with activity levels. 2. The structural model for ordinal measures of child obesity suggested that a favorable social environment was positively associated with physical activity (standardized regression coefficient = 0.13, $p<0.05$), which was negatively associated with child obesity (standardized regression coefficient = -0.24, $p<0.05$). 3. A favorable neighborhood social environment was positively associated with overall physical activity ($\beta=0.15$, $t=2.35$), days of vigorous exercise ($\beta= 0.57$, $t=2.90$), days with physical education in school ($\beta=0.39$, $t=4.18$), and favoring free-time movement activities ($\beta= 0.19$, $t=3.16$) (all $p<0.05$). (Note: Neighborhood physical environment was comprised of variables for traffic, density, land-use mix, and physical disorder.)

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Grow, Saelens (2008) Massachusetts, Ohio, California	Perceptions of safety from crime ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Access to recreational facilities 2. Perceptions of traffic safety 3. Street connectivity *Complex:* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 87 parents of children and 124 matched parents and their adolescents from Boston, Cincinnati, and San Diego areas ***PRIMARY OUTCOME:*** Physical activity and active transportation ***MEASURES:*** 1. Survey (demographics, frequency and use of physical activity resources [e.g., exercise facility, swimming pool], proximity to sites [≤or≥10 min walk], active transport to each site). 2. Neighborhood Environment Walkability Scale [NEWS] (perceived land-use mix, street connectivity, pedestrian infrastructure, neighborhood aesthetics, traffic safety, crime threat) ***DATA COLLECTION:*** A test-retest study design was used to evaluate the reliability of all measures except demographic information. Average time between completing the 2 surveys was 27 days. Parents, children, and adolescents completed the surveys. Only responses from the first survey were used in the analyses. Site types for the survey were based on formative research using qualitative interviews and prior research. Test-retest reliability for active use of, proximity to, and active transport to/ from recreation sites range from fair to good for parents (ICC=0.32-0.75) and adolescents (ICC=0.25-0.77). ***LIMITATIONS:*** Causal inferences cannot be drawn from cross-sectional design; data was self-reported; the study was not designed to be nationally representative; potentially ambiguous survey phrases may have led to confusion; particular sites were not specified by the respondents	11-18 year old adolescents Parents: 80.5% White, 9.2% Black, and 5.7% Other Adolescents: 75.0% White, 18.8% Black, 2.7% Asian/Pacific Islander, and 3.6% Other ***ELIGIBILITY:*** Parental written consent and participant assent were required. Parents of 5-18 year-old children were eligible; the 11-18 year-old adolescents of these parents were also eligible ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** The research team was from the University of Washington, San Diego State University, the University of Alabama, and the University of California, San Diego. ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** Robert Wood Johnson Active Living Research program ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. On the basis of adolescent and parent report multivariate regression models revealed that positive estimates were found for street connectivity, pedestrian infrastructure, and traffic safety and a negative estimate was found for crime threat in relation to the number of sites to which adolescents walked/biked. After adding proximity to the model, only traffic safety remained highly significantly associated with usual walking/biking to sites for both parent (β=0.55, p<0.01) and adolescent (β=0.3, p<0.01) reports. 2. Multivariate analysis of self-reported data revealed that walking/biking was the frequent transport for 9 of 12 sites (swimming pools: RR=1.9, p<0.05; basketball courts, RR=2.1, p<0.05; walking/running tracks: RR=3.3, p<0.01; school recreation sites: RR=2.3, p<0.05; small parks: RR=6.9, p<0.01; large parks: RR=2.9, p<0.05; playgrounds: RR=5.1, p<0.05; bike/hike/walk trails: RR=4.7, p<0.01; open spaces: RR=9.8, p<0.01) and also 8 of 12 by parent report (basketball courts: RR=4.5, p<0.01; walking/running tracks: RR=4.6, p<0.01; school recreation sites: RR=4.4, p<0.01; small parks: RR=6, p<0.01; large parks: RR=4.1, p<0.01; playgrounds: RR=5, p<0.01; bike/hike/walk trails: RR=3.7, p<0.01; open spaces: RR=7.3, p<0.01). 3. For adolescents, walking/biking to sites was associated with use of play fields and courts (parental report only: 54.5% active, p<0.05), swimming pools (self-report only: 58.5% active, p<0.01), beach/lack/river/creek (parent report: 42.9% active, p<0.01; self report: 48.5% active, p<0.01), and bike/hike/walk trail (parent report: 52% active, p<0.01; self-report: 49.1%, p<0.01). 4. Multivariate analysis of parent report revealed that site proximity was only associated with adolescents' swimming pool use (RR=2.1, p<0.05). 5. Adolescents who usually walked/biked to at least 5 sites (site median) had higher scores on perceived pedestrian infrastructure and on traffic safety both by parent report and self-report and had higher land use mix and street connectivity for adolescent report only (no statistics) 6. Parents and adolescents who usually walked/biked to at least 5 sites reported higher perceptions for pedestrian infrastructure and traffic safety. Only adolescents reported higher land-use mix and street connectivity (no statistics). 7. Living within a 10-min walk of large parks (report for children; 69.2% active, p<0.05, report for adolescents; 55.9% active, p<0.01, adolescent report; 47.6% active; p<0.01) and public open spaces (report for children; 59.5% active, p<0.01, report for adolescents; 30.4% active, p<0.05, adolescent report; 36% adolescents active, p<0.01) were associated with increased likelihood of being active at those sites. 8. Parents reported that children walking/biking to the site was significantly associated with active use of most recreation sites: indoor recreation sites (72.7% active, p<0.05), basketball courts (45.5% active, p<0.01), walking/running tracks (68.8% active, p<0.01), school recreation site (70.8% active, p<0.01), small (73.7% active, p<0.01) and large public parks (68.8% active, p<0.05), public playgrounds (71.1% active, p<0.05), and open space (63% active, p<0.01). The same trend was found for parental report for adolescents (indoor recreation facilities: 54.5% active, p<0.05; basketball courts: 57.5% active, p<0.01; walking/running tracks: 62.5% active, p<0.01; school recreation site: 56.7% active, p<0.01; small parks: 52.4% active, p<0.01; large parks: 59% active, p<0.01; playgrounds: 43.1% active, p<0.01; open spaces: 45.5% active, p<0.01) and adolescent self-report (indoor recreation facilities: 53.8% active, p<0.05; basketball courts: 43.4% active, p<0.01; walking/running tracks: 56.8% active, p<0.01; school recreation sites: 44.4% active, p<0.01; small parks: 50% active, p<0.01; large parks: 48.1% active, p<0.01; playgrounds: 37.3% active, p<0.01; open spaces: 50% active, p<0.01).

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Zenk, Wilbur (2009) Illinois	Perceptions of safety ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Access and availability of places for leisure activity 2. Neighborhood land-use mix 3. Neighborhood aesthetics *Complex:* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 252 African American females that were recruited within 3 miles of the health centers (156 exposed, 125 unexposed) ***PRIMARY OUTCOME:*** Walking behavior ***MEASURES:*** 1. Heart rate monitors and Walking Log Books (physical activity/walking patterns) 2. Geographic Information Systems -(ArcGIS) (geo-coded address, created 1 mile radius around home to determine neighborhood, typology of built environment including land use patterns, transportation systems, design) 3. 2004 US Census Bureau TIGER/Line street file (street intersection) 4. Neighborhood Walkability Index (land-use mix, street connectivity, residential and public transit stop density) 5. 2000 US Census Summary File 1 (block level data, housing unit density, demographic data, vacant housing, aesthetics including unpleasant neighborhood, physical deterioration, industrial land use) 6. 2004 Chicago Transit Authority, Metra and Pace, Regional Transportation Authority data (public transit stop density) 7. 2001 Land Use Inventory (entropy index that is a range of land-use mix; residential, retail, professional/office, institutional, cultural/ entertainment and the availability of outdoor walking space) 8. 2004 data set for Chicago, 2006 Web sites and telephone calls to other municipalities (government run fitness centers and recreation centers) 9. 2003 National Research Bureau data from NIPC/CMAP (presence of an indoor shopping mall within 5 miles of residence) 10. 2002-2005 Chicago Police Department data and Annual Illinois Uniform Crime Report Database (exact counts of reported crime incident, crime count assigned to individual's area during the 24 week adoption phase) ***DATA COLLECTION:*** This was a secondary analysis for the Women's Walking Program, a 12-month intervention trial that included a 24-week adoption phase and a 24-week maintenance phase. The adoption phase was completed between 2002 and 2005. Adherence to walking frequency was calculated as the percentage of the prescribed minimum 68 walks completed during the adoption phase. The entropy index, rated higher scores as having an evenly distributed land uses. All facility inquiries were made in the summer of 2006. Higher scores on the 4-item walkability index indicated greater walkability. ***LIMITATIONS:*** There was temporal mismatch between data collection years; much of the data collected was done at the municipal level, while physical activity was done at individual level, and Census data at block-level; small sample size; participants were from suburban and urban areas and results may not be easily generalized	40-65 year olds African-American Females; Urban and Suburban; 100% Minority (evaluation sample) ***ELIGIBILITY:*** Eligible participants had to be an Illinois resident, physically healthy and able to move, in the preparation or contemplation stage of motivational readiness. ***EXPOSURE/ PARTICIPATION:*** On average, participants completed 38.1% of the prescribed walks, including an average of 44.5% and 28.8% of the prescribed walks for the enhanced intervention group and minimal intervention group, respectively (t=-3.487, p=0.001).	***LEAD AGENCY:*** Researchers from the University of Illinois, Chicago ***THEORY/ FRAMEWORK:*** Ecological framework ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not reported ***ADOPTION:*** Not reported ***IMPLEMENTATION:*** Two federally qualified community health centers began the intervention with women in the community. ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** 1. Recruitment resources (print materials, presentations, newspaper ads) 2. Staff (recruitment, community center, follow-up) 3. Walking log books 4. Walking prescription and places to walk ***FUNDING:*** The Robert Wood Johnson Foundation, Active Living Research and the National Institute for Nursing Research ***STRATEGIES:*** Not reported	***PHYSICAL ACTIVITY:*** 1. Presence of a public recreation center with an indoor track or treadmill in the neighborhood or a shopping mall within 5 miles was associated with a 44% increase in adherence to neighborhood walking prescriptions as compared without having the facility (p=0.06). Presence of both indoor facility types was associated with a 66% increase in adherence (p=0.02). 2. Neighborhood walkability, aesthetics, recreational open space, and safety were not statistically significantly associated with adherence to neighborhood walking prescriptions. There was no evidence that the environment moderated the effect of intervention group on adherence (results not shown). 3. Among suburban neighborhood residents, having one or both indoor facilities in relatively close proximity were associated with a 140% and 252% increase in walking adherence, respectively.

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Sharpe, Granner (2004) South Carolina	Perceptions of neighborhood safety ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Access to sidewalks in good condition 2. Access to places for physical activity *Complex:* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 1936 respondents in two adjacent counties ***PRIMARY OUTCOME:*** Physical activity and meeting physical activity recommendations ***MEASURES:*** 1. Questionnaire (knowledge, perceptions, environmental and policy supports (i.e. trails, bicycling routes) This included 6 questions from the Behavioral Risk Factor Surveillance Survey [BRFSS] (moderate-to-vigorous physical activity). ***DATA COLLECTION:*** Data was collected in May and June of 2008. The questionnaire included the 2001 Behavioral Risk Factor Surveillance Survey questions for moderate and vigorous physical activity, items adapted from other surveys, and items developed specifically for this project. The BRFSS physical activity questions assessed the number of days per week and total time spent per day in moderate and vigorous physical activity. Reported physical activity levels were computed into 3 categories; meeting the guidelines for moderate or vigorous physical activity, insufficient activity, or inactivity. Individuals were placed into categories for meeting or not meeting recommendations. Questions from the survey have not been subjected to validity/reliability testing; however, a similar survey conducted in one of the same South Carolina counties has reported validity and reliability data for such items. An interviewing supervisor periodically monitored the professional interviewers for quality control. ***LIMITATIONS:*** Seasonal variation was not accounted for in this study; data was self-reported and may have been subject to over and under-reporting; the validity and reliability of the self-reported perceptions of policy and environmental factors has not been established; because this study was cross-sectional causality cannot be asserted	Adults General population 63.1% White, 36.9% African-American (sample) ***ELIGIBILITY:*** Participants had to be able to engage in moderate physical activities. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** Researchers were from the University of South Carolina Survey Research Laboratory. ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** The questionnaire was pretested and minor revisions were made prior to administration. ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** This study was supported by a cooperative agreement to the US Prevention Research Center from the Centers for Disease Control and Prevention. ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. The odds ratios for gender, race, and across levels of age and income were significantly associated with decreased likelihood of meeting physical activity recommendations (data not shown). 2. Prior to adjustment, significant associations with physical activity included perceived condition of neighborhood sidewalks for walking or jogging; knowledge of mapped-out bicycling routes in the county; knowledge of mapped-out routes for walking or jogging on sidewalks or beside roadways in the county; perceived safety of areas in the county to walk, job, ride a bike, or do other physical activities; and some worksite supports (data not shown). 3. After adjustment, odds ratios remained significant for perceived condition of neighborhood sidewalks for walking or jogging (OR=2.04, 95%CI: 1.25-3.35, p<0.05), knowledge of mapped-out bicycling routes in the county (OR=1.39, 95%CI: 1.10-1.76, p<0.05), knowledge of mapped-out walking or jogging routes in the county (OR=1.33, 95%CI: 1.09-1.62, p<0.05), and worksite-provided sports teams (OR=1.30, 95%CI: 1.02-1.64, p<0.05). While the presence or absence of a sidewalk on at least one side of neighborhood streets was not significantly associated with greater odds of meeting the physical activity recommendation, the perception of well-maintained neighborhood sidewalks among the 27.6% of respondents who reported the presence of sidewalks in their neighborhoods was significantly associated with physical activity (adjusted OR=2.04, 95%CI: 1.25-3.35). 4. General linear models were computed. For both unadjusted and adjusted models, the odds of meeting the physical activity recommendation were greater for higher numbers of known routes for walking or jogging in the county (least squares mean=1.41, F=5.28, p=0.02); numbers of known routes for bicycling in the county (least squares mean=0.58, F=9.45, p<0.01); number of days in a typical month respondents used a public track, trial, pathway, or mapped-out route for any type of physical activity (least squares mean =3.51, F=34.74, p<0.01); and number of days in a typical month respondents used public parks and other outdoor recreation areas for any type of physical activity (least squares mean=2.79, F=23.92, p<0.01) [statistics all from adjusted general linear model].

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Hoehner, Brennan (2005) Missouri and Georgia	Presence of physical disorder in the neighborhood ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Access to diverse land use 2. Access to public transit 3. Condition and presence of sidewalks 4. Access to places for physical activity *Complex:* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 1053 adults (Savannah [n=600] and St Louis [n=473]) in 1158 street segments ***PRIMARY OUTCOME:*** Transportation activity and meeting physical activity recommendations ***MEASURES:*** 1. ArcView Geographic Information System [GIS] (street segment attributes [sums, counts, frequencies, means, buffers]) 2. Global Positioning System (street location, attribute data, neighborhood features [walking trails]) 3. Audit (data on each street segment). Audits were constructed from a review of >30 existing tools. 4. Telephone survey with modified International Physical Activity Questionnaire (perceived environmental measures, access to recreational facilities, presence/absence of facilities, minutes walked, land-use). 5. 2000 US Census/TIGER line road files (tract data, line segment data) ***DATA COLLECTION:*** From February to June 2003 telephone survey data was collected. Most questions used Likert- or ordinal-type response categories. Audits were conducted during daylight hours from March to May 2003. Physical and social environmental variables were chosen from an expert consensus development process carried out between October 2001 and June 2002 to be measured in parallel by the telephone survey and audit. Cut-points for objective environmental measures were based on quartiles. Respondents were geo-coded onto Census TIGER/line road files. Mapping survey respondents (as points) and the environmental audit data (as vectors) with GIS software provided a linkage between survey and audit data. The IPAQ has test-retest coefficient of ~0.80 and examines 7 days of physical activity over 4 domains: occupation, transportation, house/yard, and recreation/leisure. ***LIMITATIONS:*** Audit instrument provided limited variation and was not systematic; not all crime and income variables were accounted for; not all street network characteristics and distances within the fringe area were examined; the IPAQ-long form is long, repetitious, and associated with over-estimation; there may have been measurement error, low statistical power, and/or a limited direct effect related to features measured	Adults 18 to 96 years old 63.6% White, 32.6% Black, 3.8% other minority (sample) The sample was diverse with respect to age, ethnicity, and educational attainment, and slightly under-represented men. ***ELIGIBILITY:*** Adults were eligible if their residence could be geocoded and they were physically able to perform tasks. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** Researchers were from the Saint Louis University Prevention Research Center, and the University of California at Davis. ***THEORY/ FRAMEWORK:*** Not applicable ***EVIDENCE-BASED:*** Not applicable ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** Robert Wood Johnson Foundation and the Centers for Disease Control and Prevention ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. People in the highest quartile for the total number of nonresidential destinations were two to three times more likely to engage in any transportation activity (OR=3.5, 95% CI: 2.3-5.5) or meet recommendations (OR=3.3, 95% CI: 2.0-5.4) through transportation activity than respondents in the lowest quartile ($p<0.05$ for trend). 2. Those who agreed that they had many places to exercise in their community and who reported more facilities within a 5-minute walk were slightly more likely to meet recommendations, but the direction of the trends and significance of the associations at different levels of these measures were inconsistent (data not shown). 3. Compared with never using the park in the last 30 days, the odds of meeting recommendations through recreational activity individuals were 1.2 (95% CI: 0.8-1.7) for using it 1 to 5 days; 2.1 (95%CI: 1.3-3.4) for using it 6 to 10 days; and 4.3 (95% CI: 2.9-6.2) for using it >10 days ($p<0.05$ for trend). 4. Compared to never using the nearest trail in the past 30 days, the odds of meeting recommendations through recreational activity were 1.4 (95% CI: 0.97-2.0) for 1 to 5 days; 2.4 (95% CI: 1.4-4.1) for 6 to 10 days; and 3.4(95% CI: 2.2-5.1) for >10 days ($p<0.05$ for trend). For use of the nearest private fitness facility, individuals were 1.3 times more likely (95% CI: 0.8-1.9) for 1 to 5 days; 2.3 times more likely (95% CI: 1.3-4.0) for 6 to 10 days; and 5.3 times more likely (95% CI: 3.3-8.6) for > 10 days ($p<0.05$ for trend) to meet recommendations through recreational activity. 5. Levelness of sidewalks as assessed by the audit showed a significant negative association (OR=0.6, 95% CI: 0.4-0.9) for engaging in any transportation activity and with meeting recommendations (OR=0.5, 95% CI: 0.3-0.8) through transportation activity ($p<0.05$ for trend). 6. Those in the top quartile for street segments of bus stops were 1.5 times more likely to engage in transportation activity (95% CI: 1.0-2.3) and 1.6 times more likely to meet recommendations through transportation activity (95% CI: 0.99-2.6) compared to those in the lowest quartile as assessed by the audit ($p<0.05$ for trend). 7. Those in the highest quartile for segments with minimal garbage, litter, or broken glass were 0.4 times less likely (95% CI: 0.3-0.7) to engage in transportation activity and 0.4 times less likely (95% CI: 0.2-0.7) to meet recommendations through transportation activity than those in the lowest quartile ($p<0.05$ for trend). Similarly, those in the highest quartile of physical disorder were 0.5 (95% CI: 0.3-0.8) and 0.4 (95% CI: 0.2-0.7) times less likely to engage in transportation activity or meet recommendations through transportation activity, respectively ($p<0.05$ for trend). 8. Respondents with >92 active people observed within 400 m of their home (highest quartile) were about two to three times more likely to engage in any (OR=2.1, 95% CI: 1.4-3.2) or recommended levels of activity (OR=2.7, 95% CI: 1.7-4.3) through transportation compared to those with <47 active people.

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Heinrich, Lee (2008); Heinrich, Lee (2007) Midwest United States	Access to places to be physically active ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Street networks and quality of neighborhood features *Complex:* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 452 residents in 12 public housing developments ***PRIMARY OUTCOME:*** Overweight/obesity and physical activity ***MEASURES:*** 1. Pathways to Health (PATH) study data. This study collected data using questions from the National Health Interview Survey (physical activity [frequency, intensity], age, gender, education level, and ethnicity). These questions have demonstrated a significant test-retest correlation in ethnic minority samples (r=0.33, p<0.05). Questions regarding physical activity have shown test-retest reliability ranging from 60 to 84% and validity correlations of r=0.5 and r=0.53 with accelerometers. PATH data was also collected through interviews at health fairs (verification of survey data, height, weight). 2. Understanding Neighborhood Determinants of Overweight and Obesity (UNDO-KC) in Kansas City study data. This study collected data using the Physical Activity Resource Assessment (PARA) instrument (type of physical activity resource, number of features used for physical activity, number of visitor amenities, quality of each feature or amenity present, number of incivilities, cost of use), area maps (street connectivity), and windshield surveys (verification of street connectivity). The PARA has shown good inter-rater reliability (kappa>0.77). ***DATA COLLECTION:*** Cross-sectional data was compiled from 2 studies. Data were linked by geographic area. The PATH study held health fairs at 12 public housing developments in a large metropolitan area for all adult residents between October 2001 and May 2003. Each health fair participant completed a questionnaire. Trained PATH team members interviewed participants to verify questionnaire data and completeness and conduct height and weight measurements. Body mass index (BMI) was calculated. The UNDO-KC study measured characteristics of neighborhoods surrounding PATH housing development locations using the PARA instrument between February 2003 and May 2004. Neighborhoods were designated as an 800 meter radius circle area around the center of each development. Staff members counted the number of three-street intersections in each neighborhood. ***LIMITATIONS:*** Self-selection and low participation rates; individual variation was not considered; individual and environmental data were not collected during the same time-frame; cross-sectional design restricts causal and temporal outcomes	Adults 18-93 years old 100% Lower income Housing developments served 2523 residents. All participants met the 2004 US Department of Health and Human Service's poverty guidelines [i.e., annual household income of <$18,850 per year for a family of four].) 79.6% African-American, 10.0% Caucasian, 3.3% Hispanic, 0.2%, Asian, 6.9% Other. One housing development had only 38.2% African-American (sample) ***ELIGIBILITY:*** Not reported ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** Researchers from the University of Hawaii at Manoa, the University of Houston, Kansas City University, Castleton State College, American River College, University of Missouri-Kansas City, and the University of Minnesota. ***THEORY/ FRAMEWORK:*** Ecological model ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** National Institute of Diabetes and Digestive and Kidney Diseases. ***STRATEGIES:*** Not applicable	***OVERWEIGHT/OBESITY:*** 1. At the aggregated neighborhood level (n=12), 71% of the variance in obesity prevalence was accounted for by accessibility (β=-1.02, p=0.05), average feature quality (β=1.05, p=0.09), average number of amenities per resource (β=-1.19, p=0.03), and average incivilities per resource (β=0.70, p=0.04), (F(4,11) 4.32, p<0.05). 2. Male gender and increased quality of features (F(11,407)37.19 and 12.66, p<0.001) predicted lower BMI among residents. 3. A statistically significant relationship was found between both the number of amenities per resource and obesity prevalence (r=-0.61, p=0.04) and amenity quality and obesity prevalence (r=-0.60, p=0.04). 4. As resource accessibility increased obesity prevalence decreased (r=-0.51, p=0.09). 5. Neighborhoods with greater connectivity had residents with lower average BMI (r=-0.58, p=0.05). ***PHYSICAL ACTIVITY:*** 6. A greater percent of accessible physical activity resources (β=0.584, p=0.046) was related to the number of days vigorous physical activity was performed during the past week [F=5.17 (2,11); p<0.05; r^2=0.34]. 7. Greater neighborhood street connectivity (β=0.672, p=0.001) and fewer average incivilities per neighborhood (β=-0.54, p=0.005) were associated with more days walked per week [F=21.8 (2,11); p<0.001; R^2=0.83]. 8. Higher street connectivity (β=0.902, p=0.001) and fewer physical resources were correlated with meeting moderate physical activity guidelines [F=39.18 (2,11); p<0.001; R^2=0.90) 9. Females walked half as many days per week as males did (OR=0.623, 95% CI: 0.428-0.905, p=0.013), while greater street connectivity resulted in 1-2 more days walked per week (OR=1.553, 95% CI: 1.105-2.183, p-0.011). 10. Females were up to one-third less likely to meet moderated physical activity guidelines than were males (OR=0.602, 95% CI: 0.37-0.978, p=0.41), while having greater street connectivity was linked to a 1.2 to 3.3 greater chance of meeting moderate physical activity guidelines (OR=1.987, 95% CI: 1.21-3.263, p=0.007).

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Kirby, Levesque (2007) Canada (Moose Factory Island)	Perceptions of safety for walking in the community ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Neighborhood aesthetics *Complex:* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE***: 263 Adult community members of Moose Factory ***PRIMARY OUTCOME:*** Physical activity ***MEASURES:*** 1. Height and weight (body mass index [BMI]) 2. 15-item survey (environmental perceptions [convenience, safety, aesthetics, accessibility, home-level environmental supports], walking, physical activity, sociodemographic data, anthropometric data) 3. Godin Leisure-Time Questionnaire (frequency, duration, and intensity of physical activity) ***DATA COLLECTION:*** The brief survey used items that were drawn from standardized, validated questionnaires and refined with community input. The Godin-Leisure Time Exercise Questionnaire required participants to separately recall frequency of physical activity over the past 7-days (ICC; vigorous, moderate, and light intensities: 0.94, 0.46, 0.48, respectively). Total weekly walking scores were calculated. Safety and aesthetics were used as predictor variables. Total weekly walking scores and safety and aesthetics were transformed into square root transformations, to normalize the positively skewed data. ***LIMITATIONS:*** Cross-sectional study design limits causal conclusions; convenience sampling limits the generalizability of results; objective measures of the environment were not collected; data was self-reported	Adults in an Aboriginal Community 130 women (mean age 35.6 years ±12.3), 133 men (mean age=36.3 years ±12.7) (evaluation sample) Statistics Canada did not completely enumerate Moose Factory during the 1996 and 2001 Censuses; it is not possible to confirm the representativeness of the sample. ***ELIGIBILITY:*** For the study at Moose Factory, individuals were eligible if they were; physically able to participate in activities, 18 years of age or older, and had lived in the community for greater than 5 years. Verbal informed consent was obtained prior to participation. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** The researchers were from the Kahnawake School Diabetes Prevention Project Centre for Research and Training in Diabetes Prevention, Memorial University of Newfoundland, Queen's University, and Wilfrid Laurier University. ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** Canadian Institutes for Health Research, The Kahnawake School Diabetes Prevention Project, and the Kahnawake Community Advisory Board ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. Total weekly physical activity involvement decreased with increasing BMI (χ^2 (4, n=253)=11.72, p=0.02) and total weekly walking decreased with increasing BMI (χ^2(4, n=253)=19.59, p=0.001). 2. Both square root of safety and aesthetics were significantly related to total weekly walking ($p<0.05$; β=0.130, 0.186 respectively). 3. Hierarchical regressions revealed that perceived environmental variables were not related to the variation in response for all intensity, strenuous, moderate, and light physical activity ($p>0.05$).

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Cohen, Ashwood (2006) Washington DC, Maryland, South Carolina	Presence of street lights ***OTHER INTERVENTION COMPONENT:*** *Multi-component:* 1. Access to parks and amenities 2. Presence of shaded areas 3. Distance to neighborhood parks *Complex:* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 1556 sixth-grade girls in 6 middle schools ***PRIMARY OUTCOME:*** Moderate-to-vigorous physical activity ***MEASURES:*** 1. Accelerometer Data (non-school moderate to vigorous physical activity [moderate-to-vigorous physical activity; MVPA]) 2. Geographic Information Systems [ArcView GIS] (geo-coded participant address) 3. US Census Bureau's Topologically Integrated Geographic Encoding and Referencing/Line street centerline data [TIGER] (street network [connectivity and segment]) 4. Direct observations with checklist (presence or absence of amenities at the park [lighting, restroom, shaded areas, fountains, fencing, open spaces, playing fields, courts]) 5. 2000 US Census data (block-level demographic data within 1 mile of residence) 6. School database (percentage of participants receiving free or reduced lunches at school [socioeconomic status]) 7. Departments of Recreation and Parks and local maps (locate and identify parks within 1 mile of participant address) ***DATA COLLECTION:*** Baseline data collected for the Trial of Activity for Adolescent Girls (TAAG) were used for this study. Girls wore accelerometers for 6 consecutive days during the winter and spring of 2003. MVPA was calculated for the hours outside school time. A secondary analysis used half-minute counts and 2 different cut-points; MVPA equivalent to slow walking (2.5 mph) and activities that are at or above a brisk walk (3.5 mph). Data were analyzed by summing counts from 5am to midnight. Trained staff documented park facilities within one mile of each participant's house. In Tucson, a comprehensive database of local park facilities was used, and data was verified by visiting only 10% of the parks. Parks were classified using the National Recreation and Parks Association definitions. ***LIMITATIONS:*** The study did not account for neighborhood self-selection; study design did not connect girl's activity to a particular location; degree of importance was not established between features; there was no differentiation between travel to the park and activity at the park	11-13 year old females White 45%, Hispanic 22%, Black 21%, Asian 4%, and Native American/ mixed 8% (evaluation sample) 20% Black and 6% Hispanic, and 10% of households were below poverty level (neighborhood average; ½ mile radius) ***ELIGIBILITY:*** Eligible participants for TAAG could not be planning on transferring to another school. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** For the TAAG study researchers were from universities in each of the six study areas managed data collection. The study was coordinated by the University of North Carolina and the National Heart, Lung, and Blood Institute Program Office. ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** National Institutes of Health; National Heart, Lung, and Blood Institute ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. For the average girl having 3.5 parks within a 1-mile radius of home, accounted for an additional 68 minutes of non-school 3.0 MET MVPA and an additional 36.5 minutes of non-school 4.6 MET MVPA per 6 days. 2. For every park, regardless of type, within a half mile radius from home there was an increase in non-school MVPA by 33 minutes for 3.0 METs (coefficient estimate=0.02, p<0.005) and 17.2 minutes for 4.6 METs (coefficient estimate=0.03, p=0.04) per 6 days. Each additional park past the half-mile increased non-school MVPA by 12 minutes for 3.0 Mets (coefficient estimate=0.01, p<0.009) and 6.7 minutes for 4.6 Mets (coefficient estimate=0.01, p=0.09) per 6 days. 3. For the linear model, having either a neighborhood or community park within a half-mile of home was associated with 45.5 more 3.0 MET minutes (coefficient estimate=0.03, p<0.05) and 24.2 more 4.6 MET minutes (coefficient estimate=0.04; p<0.05) per 6 days. In the half-mile to 1-mile distance, MVPA increased by 29.6, 3.0 MET minutes (coefficient estimate=0.02, p<0.05) and 18.6, 4.6 MET minutes (coefficient estimate=0.03; p<0.05) per 6 days. 4. Additional non-school MVPA minutes increased when girls had neighborhood/community parks (3.0 MET 42 min, p<0.05; 4.6 MET 22 min, p<0.05), mini-parks (3.0 MET 92 min, p<0.05; 4.6 MET 40 min; p<0.10), natural resource areas (3.0 MET 36 min, p<0.05), walking paths (3.0 MET 59 min, p<0.05; 4.6 MET 13 min; p<0.05), and running tracks (3.0 MET 208 min, p<0.05; 4.6 MET 82 min; p<0.05) within a half mile of their homes. 5. Playgrounds (39 min for 3.0 MET; 28 min for 4.6 MET, p<0.05 for both), shaded areas (20 min for 3.0 MET; 14 min for 4.6 MET, p<0.10 for both), drinking fountains (24 min for 3.0 MET, p<0.05; 14 min for 4.6 MET, p<0.10), streetlights (28 min for 3.0 MET; 18 min for 4.6 MET, p<0.05 for both), basketball courts (37 min for 3.0 MET, p<0.10; 30 min for 4.6 MET, p<0.05), multipurpose rooms (13 min for 3.0 MET and 4.6 MET, p<0.05 for both), park offices (14 min for 3.0 MET, p<0.10), an ice rink (28 min for 3.0 MET, p<0.10), a running track (208 min for 3.0 MET, p<0.05), a swimming area (32 min for 4.6 MET, p<0.05), and an amphitheater (16 min for 3.0 MET, p<0.10) were associated with increased MVPA. 6. Lawn games (-161 min for 3.0 MET, p<0.05; -55 min for 4.6 MET, p<0.10) and skateboard areas (-94 min for 3.0 MET; -48 min for 4.6 MET, p<0.05 for both) were negatively associated with increased MVPA. 7. Special use parks were negatively associated with both 3.0 MET and 4.6 MET MVPA (each p<0.05).

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
International						
Giles-Corti, Donovan (2002); Giles-Corti, Donovan (2002); Giles-Corti, Donovan (2003); Giles-Corti, Macintyre (2003); McCormack, Giles-Corti (2007); McCormack, Giles-Corti (2008) Australia	Perceptions of neighborhood safety ***OTHER INTERVENTION COMPONENTS:*** *Multi-component* 1. Access to transit stations 2. Access to destinations, land-use, road network distance 3. Access to sidewalks and neighborhood aesthetics 4. Access to recreation destinations 5. Perceptions of neighborhood traffic safety *Complex* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 1755 participants in Perth, Australia ***PRIMARY OUTCOMES:*** Overweight/obesity, physical activity, use of pay recreation destinations ***MEASURES:*** 1. Survey (physical activity [type, frequency, duration, and intensity during past 2 weeks], streetscape of the respondents home, attractiveness of open spaces, physical activity club memberships, access to a motor vehicle, recreation destinations [inside or outside neighborhood, free or pay parking], perceptions of safety and interest [traffic and hazards], perceptions of the social environment, perceptions of access [sidewalks, etc.], opportunities for activity within walking distance, height and weight [body mass index; BMI]) 2. Geographic Information Systems [GIS] (geo-coded address, shortest road network distance [destination present within 400 meter (m) and 1500m of home], individual access for destinations and facilities [Hansen's spatial accessibility model; objective factors for access]) 3. Environmental Scan (access to footpaths, shops, traffic, aesthetic environment) 4. Yellow and White Pages Telephone Directory, the Australian postal service, the Western Australian Department of Transport, and the Western Australian Ministry of Planning (total count for available destinations, commercial addresses for post boxes, convenience stores, newsagents, schools, bus stops, transit stations, parks, the river, and beaches) 5. Socioeconomic Index for Areas [SEIFA; Australian Bureau of Statistics] (socioeconomic status, demographic data) ***DATA COLLECTION:*** This study used data from the Study of Environmental and Individual Determinants of Physical Activity (SEID 1). Only items with an intra-class coefficient of kappa greater than or equal to 0.60 were included in the main study. The survey was modified using items from other major Australian studies. Objective assessments were made on the street in front of the respondent's home. Data collection began in late spring 1995 and took 5 months to complete (August 1995-March 1996). One household participant was interviewed in a face-to-face meeting. Interviews were followed-up with a telephone survey 2-4 weeks later. Perceptions of access were placed into quartiles. *(continued next page)*	Adults, 18-59 years old (evaluation sample) The sample was comprised of relatively young, healthy, sedentary workers and homemakers living in high or low SES areas. ***ELIGIBILITY:*** Eligible participants were under the age of 59, employed, residing in their suburb for 1 or more years, could not regularly exercise at work, could not have a medical condition restricting physical abilities, and had to be proficient in English. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** Researchers were from the University of Western Australia and the University of Glasgow. ***THEORY/ FRAMEWORK:*** Theory of Planned Behavior and the Theory of Trying; These are derived from the theory of reasoned action an 'expectancy model' that states that individuals are more motivated to perform behaviors they believe will result in highly valued outcomes. ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** The reliability of newly developed items was assessed in the extensive pilot phase. Modified weights for attractiveness were derived from a survey of urban planners. ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** Western Australian Health Promotion Foundation (Healthway) Health Promotion Research Scholarship, a NHMRC/ NHF Career Development Award ***STRATEGIES:*** Not applicable	***OVERWEIGHT/OBESITY:*** 1. Overweight individuals were more likely to live on highways (OR=4.24; 95% CI: 1.62-11.09), streets with no sidewalks (OR=1.4, 95% CI: 1.01-1.95), streets with sidewalks on one side only (OR=1.32; 95% CI: 0.98-1.79) and perceive no paths within walking distance (OR=1.42; 95% CI: 1.08-1.86). 2. Those who always had access to a motor vehicle were about half as likely to be obese as those who never had access to a motor vehicle (OR=0.56, 95% CI: 0.32-0.99). 3. Obese individuals were nearly twice as likely as others to perceive that there was no shop within walking distance (OR=1.84, 95% CI: 1.01-3.36). 4. Individuals with poor access to 4 or more recreational facilities were 68% more likely to be obese compared with others (95% CI: 1.11-2.55). ***PHYSICAL ACTIVITY:*** 5. Among individuals who frequented pay for use recreational destinations, each additional pay destination (OR=1.51, 95% CI: 1.32-1.73, p<0.001), having access to a motor vehicle (OR=0.51, 95% CI: 0.26-0.99, p<0.05), and having a club membership (OR=6.83, 95% CI: 3.39-13.73, p<0.001) were associated with the use of pay-destinations located in the neighborhood. 6. Those who used a pay destination located within or outside (OR=8.46, 95% CI: 3.98-18.00, p<0.001 and OR=3.48, 95% CI: 2.59-4.66, p<0.001, respectively) the neighborhood were more likely than those who did not use a pay destination to achieve sufficient vigorous-intensity physical activity. 7. Respondents using free destinations within and outside (OR=1.56, 95% CI: 1.00-2.33, p<0.05 and OR=2.13, 95% CI: 1.56-2.89, p<0.001, respectively) the neighborhood were more likely to achieve sufficient levels of vigorous-intensity physical activity than those not using a free recreational destination. 8. Residing within 1500 m of destinations including schools (OR=1.75, 95% CI: 1.28-2.39, p<0.001), convenience stores (OR=1.89, 95% CI: 1.26-2.84, p<0.001), shopping malls (OR=2.07, 95% CI: 1.43-3.00, p<0.001), newsagents (OR=2.20, 95% CI: 1.60-3.03, p<0.001), and transit stations (OR=2.38, 95% CI: 1.67-3.39, p<0.001) was significantly associated with regular walking for transport. *(continued next page)*

(Continued from previous study)						
		LIMITATIONS: Individual measures were self-reported; Perth has a higher standard of living than national and international standards; study only used data from participants in the top and bottom quintile of social advantage; study area was restricted by available resources; this study used distance-only model to determine spatial accessibility; use of cross-sectional data limits assumptions of causality; random chance cannot be ruled out; several destinations that may be important for transport-related and vigorous-intensity physical activity were not included				9. Having a transit station located within 1500 m was positively associated with regular walking for recreation (OR=1.50, 95% CI: 1.09-2.05, p<0.05), while having a beach within 1500 m was positively associated with irregular walking for recreation (OR=1.97, 95% CI: 1.01-3.83, p<0.05) and regular vigorous physical activity (OR=1.93, 95% CI: 1.20-3.13, p<0.01). 10. For each additional different type of destination (including recreational and utilitarian destinations) within 400 and 1500 m, the odds of regular walking for transport increased by 43% (95% CI: 1.27-1.61, p<0.001) and 41% (95% CI: 1.26-1.58, p<0.001) and the odds of irregular walking for transport increased by 27% (95% CI: 1.12-1.44, p<0.001) and 23% (95% CI: 1.12-1.35, p<0.001). 11. For each additional type of destination located within 1500 m the odds of regular walking for recreation increased by 16% (95% CI: 1.06-1.27, p<0.01), while the odds of irregular walking increased by 12% (95% CI: 1.01-1.26, p<0.05). 12. The mix of utilitarian destinations within 1500 m was positively associated with regular walking for recreation (OR=1.17, 95% CI: 1.05-1.29, p<0.01). 13. Destination mix was not associated with time spent walking for recreation or vigorous physical activity. 14. Respondents were more likely to walk for transport if they were in the top quartile for access to attractive public open space (OR=1.35, 95%CI: 1.05-1.73, p=0.02) and if they perceived that their neighborhood had sidewalks (OR=1.65, 95%CI: 1.12-2.41, p=0.011), a shop within walking distance (OR=3, 95%CI: 2.04-4.4, p<0.001), and more traffic and busy roads (OR=1.26, 95%CI: 1.01-1.56, p=0.038). 15. The likelihood of walking for recreation was higher in residents in the top quartile of access to the beach (OR=1.49, 95%CI: 1.14-1.93, p=0.003) and those who perceived their neighborhood as being attractive safe and interesting (OR=1.49, 95%CI: 1.14-1.95, p=0.003), and that there was support for walking locally (OR=1.8, 95%CI: 1.36-2.4, p<0.001) 16. Respondents were more likely to walk as recommended if they were in top quartile of access to public open space (OR=1.43, 95%CI: 1.07-1.91, p=0.015) and perceived their neighborhood as being attractive, safe, and interesting (OR=1.50, 95%CI: 1.08-2.09, p=0.017), and supportive of walking locally (OR=1.52, 95%CI: 1.09-2.11, p=0.014). 17. Those who exercised vigorously were more likely to live in high SES areas (OR=1.00), to be in the top quartile of access to the beach (OR=1.38, 95%CI: 1.07-1.79, p=0.013), to perceive their neighborhood as being attractive, safe, and interesting (OR=1.39, 95%CI: 1.08-1.79; p=0.01); and to claim that there were sidewalks in the neighborhood (OR=1.52, 95%CI: 1.05-2.21, p=0.027). 18. The greater the number of significant others who exercised weekly with the respondent, the more likely recommended levels of activity were achieved (four or more vs. none, OR=1.37, 95% CI: 0.83-2.25) test for trend p<0.001). 19. Walking at recommended levels was significantly associated with perceived behavioral control, frequency of a behavioral skill used in past month, intention to be active (high vs. low, OR=1.83, 95%CI: 1.14-2.94, p=0.13), having a club membership (OR=0.53, 95%CI: 0.39-0.74, p<0.01), owning a dog (OR=1.58, 95%CI: 1.19=2.09), social support for physical activity in the past 3 months, and being in the top quartile of access to attractive public open space (OR=1.47, 95%CI: 1-2.15, p=0.048). 20. In comparison with those who had major traffic and no trees on their street, the odds of achieving recommended levels of walking were nearly 50% higher among those who lived on a street with one or both of these features (combined)R=1.49, 95%CI: 0.96-2.33). 21. In comparison with those who had no sidewalk and no shop on their street, those who had access to either or both of these attributes were about 25% more likely to achieve recommended levels of walking (combined OR=1.25, 95%CI: 0.90-1.74) 22. Relative to respondents in the lowest determinant score categories, the odds of achieving recommended levels of walking were 3.1 times higher among those in the high individual determinant score category (95%CI: 2.2-4.37, p<0.001), 2.79 times higher among those in the high social environmental determinant score category (95%CI: 2-3.9, p<0.001), and 2.13 times higher among those in the high physical environmental determinant score category (95%CI: 1.54-2.94, p<0.001).

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Carver, Timperio (2008) Australia	Perceptions of neighborhood safety (incivilities and personal safety) ***OTHER INTERVENTION COMPONENTS:*** *Multi-component* 1. Perceptions of traffic safety *Complex* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 534 children (8-9 years=188; 13-15 years=346) initially from 19 state primary schools ***PRIMARY OUTCOME:*** Moderate-to-vigorous physical activity (MVPA) ***MEASURES:*** 1. Questionnaire (perceptions of road safety, incivilities, and personal safety) 2. Accelerometers (physical activity) ***DATA COLLECTION:*** Data from this study was obtained taken from the 3-year follow-up results of the CLAN (Children Living in Active Neighborhoods) study. Children were recruited in 2001. Adolescents and parents in cohort 1 (5-6 years old; baseline) and cohort 2 (10-12 years old; baseline) were given a questionnaire to fill out. Data collection took place between July and December 2004. Participants were asked to wear an accelerometer for 8 consecutive days, removing only for sleeping, showering and swimming. Mean time per day spent in physical activity of moderate to vigorous intensity was calculated for 4 specific periods on weekdays—before school, after school, evening, and outside school hours—and all day on weekend days. ***LIMITATIONS:*** Exact location for moderate-to-vigorous physical activity is not ascertained; data is self-reported; study design is cross-sectional, which limits causal interpretation	5-10 year olds, 11-13 year olds, 14-18 year olds, No racial/ethnic demographics given. (evaluation sample) The 19 state primary schools varied in socioeconomic status. A sampling strategy that ensured adequate representation of children from high and low SES families was adopted. ***ELIGIBILITY:*** Eligible children for the CLAN study were enrolled in one of the 19 participating state primary schools during recruitment and consent forms were provided. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** The research team was from Deakin University. ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** National Health and Medical Research Council ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. For children, there were no significant associations between parents' scores for road safety, incivilities, or personal safety of the child and MVPA during the specified periods. 2. A more positive parental perception of personal safety was associated with increased MVPA among boys after school (unadjusted: β=0.978, p=0.024). 3. Increased level of concern among adolescent girls about road safety was negatively associated with girls MVPA during evenings (unadjusted: β=-0.714, p=0.044) and total MVPA outside school hours on weekdays (unadjusted: β=-1.5, p=0.047). 4. For boys, parental agreement that there were traffic-slowing devices in local streets was negatively associated with MVPA before school (β=-6.109, 95% CI, -10.96 to -1.26) [no p-value provided]. 5. Adolescent girls whose parents agreed that there were traffic slowing devices on local streets, engaged in 12 minutes more MVPA on weekend days than those whose parents who did not share this view (unadjusted: β=12.2, p=0.022).

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Harrison, Gemmell (2007) United Kingdom	Perceptions of neighborhood safety from crime and vandalism ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Perceptions of neighborhood traffic safety 2. Access to facilities for leisure activities *Complex:* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 15,461 total adults of a resident population of 567,600; density was 1700 people per square kilometer ***PRIMARY OUTCOME:*** Physical activity (PA) and meeting PA recommendations ***MEASURES:*** 1. 50-item questionnaire (accessibility to transport, shopping, and leisure facilities; neighborhood disorder [crime, vandalism, assault], perceptions of traffic safety) 2. Godin and Shephard instrument (weekly frequency, duration, and intensity physical activity) 3. Townsend Index (deprivation [unemployment, overcrowding, non-car ownership and non-home ownership]) 4. 2001 National Census (residential density, address) ***DATA COLLECTION:*** Data were collected using a postal self-completion questionnaire as part of a population-based health and lifestyle survey in 2001. Postal questionnaires were sent with a cover letter and a business pre-paid return envelope. Non-responders were sent a reminder postcard 10 days later. After another 10 days, persistent non-responders were sent a reminder letter with another copy of the survey and a return envelope. Questionnaire constructs were taken from previous national surveys. The Godin-Shephard instrument is valid for use in epidemiological studies and discriminates between adults participating in different amounts and types of physical activity. The questionnaire included an introduction in Gujarati and Urdu, the main second languages spoken in the area, with information on the local health translation services. It was assumed respondents could conveniently walk to destinations in less than 10 minutes. ***LIMITATIONS:*** Cross-sectional study; self-reported measures were used for surveys; control for confounders was limited to the data originally collected; response bias	Adults, 95.5% White, 4.5% Minority, 95.5% Male, mean age 49.8 years (evaluation sample) ***ELIGIBILITY:*** Eligible participants were adults, registered with the 2001 registrar. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** The researchers were from the University of Manchester in the UK ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** Not reported ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. People who felt unsafe out and about in their neighborhood during the day (relative prevalence 0.70, 95% CI=0.59 to 0.82) and during the night (relative prevalence 0.82, 95% CI=0.78 to 0.88) were significantly less likely to be defined as physically active compared with those who felt safe during these times. 2. There was no association among physical activity and people stating that vandalism, and assaults or muggings were a problem in their neighborhood, also not among people who had or not been victims of personal crime during the past year. 3. People who thought that there was some problem with speeding traffic in their neighborhood (relative prevalence 1.08, 95% CI=1.10 to 1.14) were more likely to be physically active, but this was not consistent to this being a serious problem.

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
De Bourdeaudhuij, Sallis (2003) Belgium	Perceptions of neighborhood safety from crime ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Street connectivity and quality and access to sidewalks and bike lanes 2. Access to shops, residential density, land use mix 3. Access to physical activity facilities *Complex:* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 521 residents of Ghent, Belgium ***PRIMARY OUTCOMES:*** Overweight/obesity and walking behavior, sedentary behavior, moderate intensity activity, and vigorous intensity activity ***MEASURES:*** 1. Height and weight (body mass index [BMI]) 2. International Physical Activity Questionnaire (IPAQ) short-form items (past 7 day duration and intensity of physical activity and sedentary behavior, environmental perceptions, demographic data, and anthropometric data) 3. Environmental items from 2 questionnaires (residential density, land use mix, access to public transportation, availability of sidewalks and bike lanes, neighborhood aesthetics, perceived safety from crime and traffic, connectivity of the street network, satisfaction with the neighborhood and its services, recreational physical activity [worksite environment, physical activity equipment in the home, convenience of physical activity facilities]) ***DATA COLLECTION:*** A seven page questionnaire was mailed with a letter explaining the purpose of the study and addressed to the randomly selected person who was requested to answer to the questionnaire. At 6 and 12 weeks non respondents received additional requests to complete the questionnaire. Two existing questionnaires were combined to measure environmental correlates of physical activity. A separate study was executed to test the reliability of the newly combined items it had interclass coefficients ranging from 0.40 to 0.97 and validity coefficients ranging from 0.21 to 0.91. The International Physical Activity Questionnaire short, self-administered, 7 items to identify physical activity in the past 7 days. Validity and reliability results in 12 countries demonstrate that the IPAQ has comparable reliability and validity to other self-report measures of physical activity. ***LIMITATIONS:*** Purpose of walking was not distinct; survey data was self-reported; study conducted in one city limits generalizability; causal relations cannot be obtained using cross-sectional data; there was a lack of context specific physical activity measures; using the IPAQ short form, the difference between the purpose or context of an activity could not be disentangled	Adults,18-65 year olds (target sample) 41 ± 12.22 (mean) years, 48.3% Female, 70.1% Employed, 39.3% Urban dwellers, 54.9% Suburban, 5.9% Countryside (evaluation sample) Respondents appear to have better jobs, have a higher education, are more often employed, and under represent the number of individuals living alone compared with the Flemish reference population. ***ELIGIBILITY:*** Not reported ***EXPOSURE/ PARTICIPATION:*** The local government from the pool of all residents of Ghent, a city with 224,000 inhabitants and consisting of a city center, suburbs, and countryside.	***LEAD AGENCY:*** Researchers were from Ghent University in Belgium and San Diego State University in California. ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** A separate study was executed to test the reliability of the newly combined environmental items. It was translated to Flemish and pretested with a small sample (n=40). ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** Not reported ***STRATEGIES:*** Not applicable	***OVERWEIGHT/OBESITY:*** 1. Participants with a higher BMI reported less safety from crime (Pearson r= -0.11, p<0.05), less physical activity equipment in the home (Pearson r= -0.15, p<0.001), and fewer convenient physical activity facilities (Pearson r=-0.11, p<0.05). ***PHYSICAL ACTIVITY:*** 2. In males, the amount of sitting was related to higher perceived criminality in the neighborhood (semi-partial correlate; -0.22, p≤0.01), longer distances to shops and businesses (land use mix, diversity) (semi-partial correlate; 0.14, p≤0.05), and more convenience of shopping in local stores (land use mix, access to local shopping) (semi-partial correlate; 0.15, p≤0.01). 3. Greater availability of sidewalks in the neighborhood was associated with walking in males (semi-partial correlate; 0.14, p≤0.05). In females, more walking was associated with greater ease of the walk to public transportation stops (semi-partial correlate; 0.16, p≤0.05) and to longer distances to shops and businesses (semi-partial correlate; 0.15, p≤0.05). 4. In males, moderate intensity activity was related to more satisfaction with neighborhood services (semi-partial correlate; 0.15, p≤0.05). In females, more moderate intensity physical activity was related to better access to shopping in local stores (semi-partial correlate; 0.16, p≤0.05) and more emotional satisfaction with the neighborhood (semi-partial correlate; 0.13, p≤0.05). 5. In males, vigorous intensity physical activity was related to more convenient physical activity facilities (semi-partial correlate; 0.11, p≤0.05). In females, vigorous intensity physical activity was related to more convenient physical activity facilities (semi-partial correlate; 0.14, p≤0.05) and supportive worksite environment was related to more high intensity activity (semi-partial correlate; 0.12, p≤0.05). ***OTHER:*** 6. For females, less emotional satisfaction with the neighborhood was associated with greater amounts of sitting (semi-partial correlate= -0.15, p≤0.05).

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Kondo, Lee (2009) Japan	Perceptions of neighborhood safety from crime ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Residential density and land use mix-diversity 2. Perceptions of neighborhood traffic safety 3. Street connectivity and neighborhood aesthetics 4. Access to gymnasiums and fitness facilities *Complex:* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 156 residents; 83 residents were in the Type A region (high residential density, land use mix-diversity, and street connectivity); 73 residents were in the Type B region (low residential density, land use mix-diversity, and street connectivity) ***PRIMARY OUTCOMES:*** Leisure and transport walking ***MEASURES:*** 1. Geographical Information System (GIS) Data (500-meter radius residence buffer, household count, land use type count, length of streets and sidewalks, intersection count, width of streets) 2. Fieldwork and Tokyo City Planning Basic Survey (land use) 3. Abbreviated version of the Neighborhood Environment Walkability Scale (ANEWS) data (residential density, land use mix-diversity, land use mix-access, street connectivity, aesthetics, and traffic and crime safety) 4. Accelerometer ([Type A=48; Type β=64] total number of walking steps) 5. International Physical Activity Questionnaire [IPAQ] (types and duration of physical activity) ***DATA COLLECTION:*** Subjects were stratified and selected using the Basic Resident Register in September 2006. This study was part of the Study on the Evaluation of Neighborhood Environments Affecting Residents' Daily Physical Activity. A self-administered questionnaire was sent by mail. After acceptance to participate an accelerometer was sent to the subjects, who had their height, weight, and age programmed into the device. Subjects were asked to wear the accelerometer for 1 week, 8 hours per day, and return it by mail. For this study the ANEWS, was translated into Japanese and pretested (n=72) finding Cronbach's alpha coefficients were 0.57-0.94 and the reliability scores were 0.61-0.95, except for street connectivity (0.46). Based on the GIS measurements or the perception scores of the ANEWS, subjects were classified as being in the high scoring group (measurement or score was equal to and above the median) or low scoring group (measurement or score was below the median). ***LIMITATIONS:*** Low response rate; causal information cannot be assessed using cross-sectional data	Adults, 30-69 years old (evaluation sample) ***ELIGIBILITY:*** Participant consent was required The city has a relatively small population of 57,990 in a 699-km^2 area. Those who responded to the questionnaire and wore accelerometers were significantly older than those who did not. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** The research team was from the University of Tokyo and Kyoritsu Women's University. ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Previous studies were used to incorporate a study high residential density, high land use mix-diversity, high street connectivity and accessibility to facilities. ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** Support came from a grant provided by the Japan Ministry of Education, Culture, Sports, Science and Technology ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** *For both sexes* 1. There were no significant differences in walking steps related to land use type, length of streets or sidewalks, number of intersections, and width of streets between the high and low scoring groups. There were no differences in walking time for leisure or transport associated with objective neighborhood measures between the high and low scoring groups. There were no differences in mean walking time for transport or cycling time for transport related to neighborhood environment perception scores between the high and low scoring groups. *For females* 2. Mean cycling time for transport was significantly longer in the high scoring group than in the low scoring group for the number of land use types (mean ± standard error: 11.9 ± 3.0 vs. 0.8 ± 4.4; $p<0.05$) including post offices (12.1 ± 3.1 vs. 1.5 ± 4.2; $p<0.05$), banks/credit unions (15.4 ± 3.8 vs. 3.1 ± 3.3; $p<0.05$), gymnasiums/fitness facilities (31.9 ± 7.8 vs. 5.8 ± 2.5; $p<0.01$), and/ or amusement facilities (16.4 ± 4.6 vs. 4.8 ± 3.0; $p<0.05$) in the area when compared to subjects without these facilities. 3. Mean total walking steps was significantly higher in the high scoring group than in the low scoring group for the walking places score (mean± standard error: 9488±511 vs. 7957 ± 538; $p<0.05$). *For males* 4. Mean walking time for leisure was significantly longer in the high scoring group than in the low scoring group for the aesthetics score (mean ± standard error: 20.6 ± 6.0 vs. 0.6 ± 6.7; $p<0.05$) and for individuals with parks in the area compared to those without (26.2 ± 6.4 vs. 2.7 ± 6.9; $p<0.05$). 5. Mean total walking steps was significantly higher for subjects with bookstores (10568 ± 898 vs. 6983 ± 881; $p<0.01$) or rental video stores (10336 ± 962 vs. 7422 ± 873; $p<0.05$) in the area (within 10-minute walk) than for subjects without these facilities. 6. There were no differences in walking steps between the high scoring group and the low scoring group for residential density, land use mix-diversity, land use mix-access, street connectivity, and safety.

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Miles (2008) Europe	Perceptions of neighborhood safety from crime ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* Not reported *Complex:* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 2123 household informants from Angers, France; Bonn, Germany; Budapest, Hungary; Bratislava, Slovakia; Forli, Italy; Geneva, Switzerland; and Vilnius, Lithuania ***PRIMARY OUTCOME:*** Physical activity ***MEASURES:*** 1. Large Analysis and Review of European housing and health status survey ([LARES] perception of neighborhood safety, respondent's readiness to encourage children to use the playground, physical activity, sociodemographics) 2. Observations (housing conditions, type of housing area (e.g. multi-family), traffic volume, presence or absence of litter, graffiti, greenery) ***DATA COLLECTION:*** Data was used from a survey collected by the World Health Organization (WHO) from 2001-2002. This study was conducted in 2007. To maximize validity, surveyors in all the cities received the same standardized 2-day training course provided by a WHO representative. Neighborhood disorder was a composite of three indicators: the presence of graffiti; the presence of litter; and the absence of vegetation voluntarily displayed on outside walls, balconies, or windows. A high score neighborhood had either two or three of these conditions; those with a moderate score had one of the three conditions; and those with a low score showed no signs of either litter or graffiti, and featured voluntary displays of greenery. A site variable indicating city of residence was included to account for unmeasured city-level influences such as cultural attitudes toward physical activity or threats to personal safety perceived throughout the city. ***LIMITATIONS:*** Causal inferences cannot be made using a cross-sectional study design; data was self-reported: the survey focused on general physical activity rather than specifics like location; walking for transportation was excluded from the study; the perceived safety item captures perceptions when returning home in the dark and likely underestimates the effect on readiness to encourage children's use of playgrounds; the analytical sample was limited to urban household informants	General Population (target sample) 48 years old (median age), 65% Female (evaluation sample) By accounting for unmeasured city-specific influences the findings of this study point to relationships that may be broadly applicable to Europe as a whole. ***ELIGIBILITY:*** Eligible participants had playgrounds near their residence. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** The research team was from Florida State University. ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES***: Not applicable ***FUNDING***: Not reported ***STRATEGIES***: Not applicable	***PHYSICAL ACTIVITY:*** 1. For men, neither neighborhood disorder nor perceived safety showed significant associations with the respondent's current involvement in sports or exercise. For women, living in a neighborhood with signs of low compared to high physical disorder was associated with a significant increase in the risk of occasional versus no sports or exercise (Relative Risk Ratio= 1.28, 95% CI=1.03-1.60, $p<0.05$). 2. Neighborhood physical disorder was associated only with adult respondents' occasional involvement in sports or exercise and only among women ($p<0.05$), perceived safety was not significantly associated with physical activity for either men or women. ***USE OF RESOURCES:*** 3. Respondents in neighborhoods with signs of low or moderate physical disorder compared to high physical disorder had slightly more than twice the odds of encouraging use of local playgrounds (OR=2.14, 95% CI=1.54-2.97, $p<0.01$ and OR=2.09, 95% CI=0.65-2.64, $p<0.01$, respectively). 4. Respondents reporting that they felt safe in their neighborhood had more than twice the odds of encouraging the use of playgrounds compared to those who indicated they did not feel safe (OR=2.83, 95% CI=2.29-3.49, $p<0.01$); those reporting that they had feelings the neighborhood was somewhat safe had 60% greater odds of encouraging playground use than those who reported feeling unsafe (OR=1.60, 95% CI= 1.27-2.01, $p<0.01$).

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Carnegie, Bauman (2002) Australia	Perceptions of neighborhood perceptions of safety (dogs barking) ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Perceptions of neighborhood traffic safety 2. Land-use mix 3. Access to open spaces (beaches and parks) 4. Neighborhood aesthetics *Complex:* 1. Friendliness of neighborhood	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 1,197 adults ***PRIMARY OUTCOME:*** Walking behavior ***MEASURES:*** 1. Survey (environment, intensity, frequency, and duration of physical activity [2 week and 6 month recall], sociodemographic data, stage of change, perceived walking, friendliness of neighborhood, pleasantness, accessibility to facilities, traffic) ***DATA COLLECTION:*** This study used data from interviews conducted from October 25 to November 13, 1995. The questionnaire was field tested with 30 respondents to ensure that all of the items were comprehensible. Total duration of each type of exercise/physical activity reported was multiplied by MET values (9, 3.5, and 3.5 for high-, moderate-intensity, and walking respectively). Respondents were categorized as active (>800 kilocalories (kcal) per week) or inactive (<800 kcal/week). The reliability and validity of these two (physical activity) measures have been shown to be adequate. Behavioral and motivational questions were combined to assess identification of the respondent's stage of change for physical activity. Perception responses were recorded on a 5-point Likert scale ranging from strongly agree (1) to strongly disagree (5) (items from previous research). ***LIMITATIONS:*** Causal inferences cannot be made using cross-sectional data; survey data was self-reported; aspects of the practical environment may have been addressed in too large-scale of an area	General population, Adults, 40-60 years old, 57.4% Female (evaluation sample) The demographic composition of the sample was very similar to that provided by the most recent national census data. Respondents aged 40-45 were slightly overrepresented (29.2%) and those aged 56-60 years were slightly underrepresented (20.1%). Two percent of the resident population within the target age range were sampled for this study. ***ELIGIBILITY:*** Participants 40-60 years old were eligible. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** The research team was from University of Sydney, University of New South Wales, South Western Sydney Area Health Service, Illawarra Area Health Service, and the Children's Hospital at Westmead. ***THEORY/ FRAMEWORK:*** Stages of Change (transtheoretical) Model ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** The Australian Commonwealth Department of Health Family Services funded the Illawarra Physical Activity Project. ***STRATEGIES:*** Not reported	***PHYSICAL ACTIVITY:*** 1. Those who did little walking (20 minutes or less per week) reported more negative perceptions of their aesthetic environment than those who reported walking for between 20 minutes and 2 hours and those who reported walking for more than 2 hours ($F(2,1.163)=5.19$, $p<0.01$). 2. There was an independent association between the stage of change variable and the aesthetic environment ($F(2, 1.168) = 5.67$; $p<0.01$) and with the practical environment factor ($F(2, 1.157) =12.05$; $p<0.001$). 3. Those who walked for less than 20 minutes and those who walked for between 20 minutes and 2 hours both reported that shops, parks, and beaches were less near to their home than those who reported walking more than 2 hours per week ($F(2, 1.168) = 11.24$, $p<0.001$). 4. Those who did little waking (20 min or less per week) reported more negative perceptions of their aesthetic environment than those who reported walking for between 20 min and 2 hr and those who reported walking for more than 2 hr ($F(2, 1.163)= 5.19$, $p<0.01$). 5. Those who walked more than 2 hours per week ($M=2.96$, $SD=1.1$) strongly agreed that they perceived traffic to be bothersome more than those who walked less than 20 minutes per week ($M=3.15$, $SD=1.12$; $F(2, 1.168)=5.19$; $p=0.006$). 6. The "dogs barking" variable showed no relationship with walking activity nor did the "safety at night" question. 7. The "feel safe walking at night" question was much more of an issue for women than men ($M=3.7$ for women and 2.4 for men, $p<0.001$), showing that women felt much less safe than men walking at night.

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Li, Dibley (2006) China	Perceptions of safety ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Access to recreational facilities (playgrounds, gyms, sports equipment, and public open spaces) 2. Access to sidewalks 3. Land-use diversity *Complex:* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 1787 adolescents attending 30 junior high schools in Xi'an, China ***PRIMARY OUTCOME:*** Physical activity ***MEASURES:*** 1. Height and weight (body mass index [BMI]) 2. Adolescent Physical Activity Recall Questionnaire (time spent in organized or non-organized activities over an average week) 3. Parent Questionnaire (sociodemographic and environmental factors at the community and household levels including recreation facilities in the community, places around the home for children to play, level of residence, safety concerns, parents' involvement with children doing exercise, household facilities for playing games, and family rules for playing games) 4. School Doctor Questionnaire (environmental factors at the school level [availability of playgrounds, gyms, sports equipment, sports meetings, recess exercises, physical education, bicycle riding policies]) ***DATA COLLECTION:*** Questionnaires were completed by adolescents, parents, and school doctors. Trained research staff measured the students' height and weight. Environmental factors used for survey items were based on focus group identification with student, parents, and school doctors. An expert panel reviewed items and studies conducted in Western countries. ***LIMITATIONS:*** Causal inferences cannot be made using cross-sectional data; socially desirable responses may have influenced respondents; questionnaires measuring environmental factors were not validated for use in a Chinese city	Urban, 11-17 year olds ***ELIGIBILITY:*** Participants provided written informed consent. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** The research team was from the Xi'an Jiaotong University and the University of Newcastle. ***THEORY/ FRAMEWORK:*** A conceptual framework was developed and linked to physical activity in adolescents. ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** Health Consequences of Population Change Program of the Welcome Trust ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. Access to public facilities (OR= 1.4, 95% CI=1.0-1.9, p=0.03 for moderate access and OR= 1.7, 95% CI=1.2-2.4, p<0.01 for difficult access) and concerns about neighborhood safety (OR= 2.1, 95% CI=1.1-4.1, p=0.03) were positively associated with inactivity. 2. Lack of recreational facilities was associated with a higher percentage of inactivity in girls (OR=2.4, 95% CI=1.6-3.5, p<0.001). 3. Perceived unsafe neighborhoods were associated with a higher percentage of inactive adolescents, but the difference was not statistically significant (p=0.08). 4. Lack of extracurricular sports (OR= 1.3, 95% CI= 1.1-1.6, p=0.01) and sports meetings (OR= 2.0, 95% CI=1.4-2.9, p<0.01) were significantly associated with physical inactivity, but physical education was inversely associated with inactivity (OR= 3.1, 95% CI=1.6-6.0, p<0.01 for twice a week and OR= 2.6, 95% CI=1.3-5.1, p=0.01 for three times a week). 5. Lack of recess exercise or sports meetings was associated with higher percentages of inactivity in boys (OR=2.2, 95% CI=1.2-4.0, p=0.02 and OR=1.5, 95% CI= 1.0-2.2, p=0.05, respectively). 6. For boys, lack of recess sports (OR= 2.2, 95% CI=1.2-4.0, p=0.02) and sports meetings (OR= 1.5, 95% CI= 1.0-2.2, p=0.05) were associated with low levels of physical activity, and boys at schools forbidding bike riding to school were 60% less likely to be inactive (OR= 0.4, 95% CI=0.2-0.8, p=0.02). 7. For girls, fewer sports meetings (OR= 1.7, 95% CI=1.03-2.8, p=0.04) was associated with inactivity. 8. Adolescents living in a house without sidewalks were 30% more likely to be inactive (OR= 1.3, 95% CI=1.0-1.6, p=0.01). 9. Adolescent boys living in surroundings without vacant fields were 1.7 times (95% CI=1.2-2.5, p=0.01) more likely to be inactive. 10. Unavailability of video game shops around the home was associated with a higher percentage of inactive boys (OR=1.5, 95% CI=1.1-2.1, p=0.02). 11. Lack of sidewalks around the house was associated with physical inactivity in girls (OR= 1.5, 95% CI=1.04-2.0, p=0.03).

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Utter, Denny (2006) New Zealand	Neighborhood safety ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Accessibility of community-based recreational facilities and physical activity resources *Complex:* 1. Community motivational factors	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 9,699 high school students ***PRIMARY OUTCOME:*** Physical activity ***MEASURES:*** 1. Survey (intensity [vigorous and regular vigorous], frequency, and duration of physical activity, motivation for exercise, partners to exercise with, neighborhood safety, perceived opportunities for physical activity [within walking distance from home], age, sex, ethnicity, socioeconomic status) ***DATA COLLECTION:*** Data for the current study was collected as part of Youth2000, the New Zealand national youth health survey completed during 2001. If students chose more than one ethnicity they were assigned an ethnic category following the New Zealand Census Prioritization Method. Participation in vigorous activity was determined by 2 questions about frequency and duration of doing an activity that "makes you sweat or breathe hard or gets your heart rate up." Regular vigorous activity was defined as doing that activity at least 3 days per week for at least 20 minutes. ***LIMITATIONS:*** Access to community facilities was based on participation not objective measurement; survey data was self-reported, which may lead to response bias	13-17 year olds No racial/ethnic demographics given. Participating students were demographically similar to the general New Zealand population of young people aged 13 to 17 years. ***ELIGIBILITY:*** Informed consent was obtained. Eligible participants were in high school. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** The research team was from the University of Auckland ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** The Health Research Council of New Zealand ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. Students were significantly more likely to engage in regular vigorous activity when they lived within walking distance of the following perceived community features: a park (OR=1.17, 95% CI= 1.1-1.3), a skateboard ramp (OR=1.32, 95% CI= 1.2-1.5), a sports field (OR=1.59, 95% CI= 1.4-1.8), a swimming pool (OR=1.38, 95% CI: 1.2-1.5), a gym (OR=1.44, 95% CI=1.3-1.6), and a bicycle track (OR=1.44, 95% CI=1.3-1.6). Note: students could respond yes to more than one facility. 2. Students were significantly less likely to engage in activity if they perceived there was nothing to do where they lived (OR=0.78, 95% CI=0.7-0.9). 3. Neighborhood safety was positively associated with participation in regular physical activity (OR=1.46, 95% CI=1.3-1.6).

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Hume, Salmon (2007) Australia	Perceptions of neighborhood safety ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Access to neighborhood destinations 2. Perceptions of traffic safety 3. Street connectivity and neighborhood aesthetics *Complex:* 1. Social support (presence of friends in the area)	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 280 children attending 3 elementary schools in Melbourne, Australia ***PRIMARY OUTCOMES:*** Walking and cycling behavior ***MEASURES:*** 1. Accelerometer Data (physical activity and physical activity related energy expenditure) 2. Student questionnaire (frequency of dog walking, walking for exercise, walking to and from school during the past month, access to 15 neighborhood destinations, perceptions of aesthetic and safety characteristics of neighborhood environment, perception of the social neighborhood environment, presence of friends in the area, friends living within walking or cycling distance, knowledge of all neighborhoods and people in the area, presence of multiple children to play with, other children as play companions) ***DATA COLLECTION:*** This data is part of the baseline assessment for a randomized controlled trial. Two trained researchers fitted accelerometers, which were worn for 8 consecutive days. Data was recorded in 1-minute periods. Each participant completed a questionnaire at school during class time under the supervision of 2 teachers and 2 research staff. Self-reported physical activity and environment measures were pilot-tested in a small sample of 38 children of a similar age to those in the study sample. Reliability was rated for all three walking measures (ICC=0.69-0.95), overall walking frequency (ICC=0.86), and access to neighborhood destinations (Cronbach alpha=0.91, ICC=0.84). Percent agreement was rated for access to neighborhoods (76-100%), perceptions of aesthetic and safety characteristics of the environment (86-100%), and children's perception of the social environment in their neighborhood (68%-100%). ***LIMITATIONS:*** Cross sectional study design does not allow causality or temporal inferences to be determined; self-reported data may lead to response bias; children's awareness of destinations may be dependent on previous access; the neighborhood was fairly homogenous	10-year-olds Lower-income; 49% boys (evaluation sample) ***ELIGIBILITY:*** All children in grade 5 in the schools were invited to participate. Parents had to provide active consent. Children had to maintain enrollment between recruitment and testing. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** The research team was from Deakin University (evaluation) ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** Not reported ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. Chi square analyses showed that significantly more boys than girls reported access to a walking or cycling track in their neighborhood (94% vs. 85%; $\chi^2[1]=5.59$, p=0.02), lots of graffiti (27% vs. 15%; $\chi^2[1]=5.34$, p=0.02), that it is safe to walk or cycle to school (71% vs. 56%; $\chi^2[1]=5.79$, p=0.02), and that they knew all their neighbors quite well (73% vs. 61%; $\chi^2[1]=3.86$, p=0.05). In contrast, more girls than boys reported that they were worried about strangers in their neighborhood (45% vs. 30%; $\chi^2[1]=6.06$, p=0.01). 2. Among boys, access to the total number of neighborhood destinations (β=0.35, p=0.03), knowing their neighbors well (β=2.13, p=0.04), and perceiving that it was a safe neighborhood to walk/cycle to school (β=-1.92, p=0.07) were positively associated with weekly walking frequency. Total number of accessible destinations score remained significantly positively associated with walking frequency in the multiple regression model (p<0.05). 3. Among girls, the perceptions of nice houses in the neighborhood (β=2.98, p=0.003); lots of neighborhood graffiti (β=2.59, p=0.04); nice neighborhood house gardens (β=1.91, p=0.03); safety in the neighborhood for walking/cycling to school (β=2.78, p=0.03); and safety when crossing the road (β=1.99, p=0.07); having an easily walkable/cyclable neighborhood (β=2,75, p=0.0001); knowing lots of people in the area (β=2.61, p=0.05); and having lots of friends in the area (p=0.08) were significantly positively associated with walking frequency. Easy to walk/ cycle and lots of graffiti remained significantly associated with walking frequency in the multiple regression model (both p<0.05). 4. Perceiving lots of litter and rubbish in the neighborhood (β=51.28, p=0.02), lots of children in the neighborhood to play with (β=110.51, p=0.03), friends within walking/cycling distance of home (β=104.79, p= 0.04), and the overall neighborhood social environment scale (β=31.68, p=0.006) were significantly associated with overall physical activity among boys. 5. For boys' overall physical activity, having friends living in walking/cycling distance and presence of lots of litter (both p<0.05) remained significantly positively associated in the multiple regression model.

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Carver, Salmon (2005) Australia	Neighborhood perceptions of safety (unattended dogs) ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Access to sports facilities 2. Access to convenience stores 3. Neighborhood perceptions of traffic safety *Complex:* 1. Social support	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 347 adolescents (172 boys and 175 girls) and their parents (n=347) in Sydney, Australia (birth cohort from the Nepean Kids Growing Up Study) ***PRIMARY OUTCOMES:*** Walking and cycling behaviors ***MEASURES:*** 1. Parent Questionnaire (level of maternal education, perceptions of local neighborhood) 2. Adolescent questionnaire (duration and frequency of participation in walking for exercise, walking to and from school, walking for transport, walking the dog, cycling for recreation, cycling to and from school, cycling for other transport from Monday to Friday and Saturday to Sunday, presence of places for physical activity, presence of peers, safety, traffic, dogs, bullying, strangers, convenience foods, walkability/bikeability) ***DATA COLLECTION:*** Between July 2002 and February 2003, questionnaires were completed by adolescents and their parents at home. A few items were tested for reliability in a previous study yielding an ICC=0.86 for walking to school and an ICC=0.71 for cycling to school. Perceptions of the local neighborhood were also tested in a previous study yielding an ICC range=0.63-0.91 for parents and ICC range=0.51-0.84 for children. ***LIMITATIONS:*** Data was self-reported which may lead to response bias; birth cohort may not represent the general population; cross-sectional study design does not allow for causality or temporal inferences	12-13 year olds, mean age 13.0 ±0.2 (evaluation sample) ***ELIGIBILITY:*** Written consent was obtained. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** Research team ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** National Health and Medical Research Council, Meat and Livestock Australia, Novo Nordisk, AMP Foundation, and the Raymond E. Purves Foundation ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. Boys' worry about roaming dogs was negatively associated with frequency (β= -0.213, p<0.05) and duration (β= -0.194, p<0.05) of walking for exercise on weekdays, duration of walking for exercise on weekends (β= -0.189, p<0.05), and duration of walking for transport on weekdays (β=-0.159, p<0.05). 2. Girls' worry about roaming dogs was negatively associated with frequency (β= -0.164, p<0.01) and duration (β= -0.153, p<0.05) of cycling for recreation on weekends, frequency (β= -0.219, p<0.01) and duration (β= -0.183, p<0.05) of cycling for recreation on weekdays, and frequency of walking the dog on weekends (β= -0.138, p<0.05). 3. Girls' perception of road safety was positively associated with frequency (β=0.179, p<0.05) and duration (β=0.183, p<0.01) of walking for transport on weekdays, frequency of walking for exercise on weekdays (β=0.094, p<0.01), duration of walking for exercise on weekends (β=0.184, p<0.05), and frequency of walking the dog on weekends (β=0.128, p<0.05). 4. Girls' perception of convenience stores near home was negatively associated with frequency (β= -0.157, p<0.01) and duration (β= -0.15, p<0.01) of walking for transport on weekends. 5. Parents' perception that their neighborhood had good sports facilities for their child to use was positively associated with girls' frequency (β=0.115, p<0.01) and duration (β=0.092, p<0.05) of cycling for recreation of weekdays, girls' frequency of cycling for recreation on weekends (β=0.092, p<0.05), girls' frequency of walking the dog on weekends (β=0.123, p<0.05), and boys' frequency of cycling for transport on weekdays (β=0.155, p<0.05). 6.Parents' perception that there was so much traffic that it was difficult/unpleasant to go for a walk was negatively associated with girls' frequency (β=-0.164, p<0.01) and duration (β=-0.161, p<0.05) of cycling for recreation on weekends, girls' frequency (β=-0.190, p<0.01) and duration (β=-0.188, p<0.01) of walking for exercise on weekdays, girls' duration of cycling for recreation on weekdays (β=-0.109, 0.05), girls' duration of walking to school (β=-0.128, p<0.01), and boys' frequency of walking for transport on weekdays (β=-0.138,p<0.05). ***SOCIAL ENVIRONMENT:*** 7. Boys' perception of having lots of boys/girls the same age to hang out with was positively associated with duration (β=0.27, p<0.01) and frequency (β=0.242, p<0.01) of cycling for recreation on weekdays, frequency of cycling for transport on weekdays (β=0.141, p<0.05), and duration of walking for transport weekdays (β=0.129, p<0.05). 8. Boys' perception of waving/talking to neighbors most days was positively associated with duration (β=0.108, <0.05) and frequency (β=0.149, p<0.05) of walking for transport on weekdays. 9. Girls' reports of waving/talking to neighbors most days were positively associated with frequency (β=0.119, p<0.05) and duration (β=0.103, p<0.01) of walking for transport on weekdays and frequency (β=0.16, p<0.01) and duration (β=0.156, p<0.01) of walking for exercise on weekdays. 10. Girls' perception of having many friends in the neighborhood was positively associated with frequency (β=0.078, p<0.05) and duration of walking (β=0.119, p<0.01) for transport on weekdays, frequency (β=0.193, p<0.01) and duration (β=0.189, p<0.01) of walking for transport on weekends, and frequency (β=0.211, p<0.01) and duration (β=0.23, p<0.01) of walking to school. 11. Girls' perception of having lots of boys/girls the same age to hang out with was positively associated with frequency (β=0.118, p<0.01) and duration (β=0.1, p<0.01) of walking to school and frequency of cycling for recreation on weekends (β=0.164, p<0.01). 12. Girls' perception of having friends close to home was positively associated with frequency of walking for transport on weekdays (β=0.069, p<0.05).

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Duncan, Mummery (2005) Australia	Neighborhood safety ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Access to opportunities for physical activity 2. Street connectivity and aesthetics 3. Distance to opportunities for physical activity *Complex:* 1. Social support	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 760 respondents from Rockhampton, Queensland ***PRIMARY OUTCOMES:*** Meeting physical activity recommendations and walking ***MEASURES:*** 1. Active Australia Physical Activity Questionnaire (sociodemographic factors, self-efficacy, walking for leisure and transport, intensity, duration, and frequency of physical activity, safety, aesthetics, accessibility) 2. Geographic Information Systems -GIS (linking residence with environmental measures, Euclidian and street distance, amount of streetlights) 3. Electronic White pages (location of news agent outlets) ***DATA COLLECTION:*** Data used for this study was collected in August 2001 and September 2001. Levels of self-efficacy (Cronbach alpha=0.76) for performing physical activity and 4 social support items (Cronbach alpha=0.77) were assessed individually using a five-point Likert scale from 'not at all confident'/'never' to 'very confident'/'very often'. All items were subsequently summed to form a single item for self-efficacy and social support and dichotomized into high and low categories using a mean split. The Active Australia Physical Activity Questionnaire has shown good test-retest reliability. Participation in 'sufficient' levels of physical activity was defined as attaining 150 minutes of activity throughout the previous week in all activities excluding vigorous gardening, derived from national activity guidelines. Lighting information was provided in 2002 by the State's electrical supplier. ***LIMITATIONS:*** Survey data was self-reported; causal inferences cannot be made using a cross-sectional study; geo-coding was performed 17 months after the questionnaire was given; dog registration and street lighting data were taken one year after questionnaire collection; sample was taken from a very specific geographic location	General population Ages 18 and older ***ELIGIBILITY:*** All participants were 18 years of age or older at the time of the survey and lived in a residence that was accessible by land-based telephone and could be geo-coded. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** Researchers were from Central Queensland University ***THEORY/ FRAMEWORK:*** Social-ecological framework ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** Queensland Health as part of 10,000 Steps Rockhampton ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. People with the most proximal parkland beyond a network distance of 0.6 km, were 41% more likely to achieve recommended levels of activity than those with parkland within this distance (OR=1.41, CI=1.01-1.97). 2. People who had unacceptable route directness to the nearest parkland were 41% more likely to achieve sufficient levels of activity than those people who had acceptable route directness to parkland (OR=1.41, CI=1.00-1.98). 3. People who did not agree that the neighborhood footpaths were in good condition were 38% more likely to participate in recreational walking than those who thought the footpaths were in good condition (OR=1.38, CI=1.00-1.91). 4. Euclidian distance of 0.4 km from their home were 69% less likely to walk in the previous week than those who had a footpath within that distance from their place of residence (OR=0.31, CI=0.18-0.55). 5. People whose home was classed as being in the middle tertile of registered dog numbers within 0.8 km were 66% more likely to have reported some recreational walking than those people living in a residence with the lowest tertile of registered dog numbers (OR=1.66, CI=1.13-2.43). 6. People not agreeing that their neighborhood was clean and tidy were 2.67 times more likely to attain sufficient levels of activity than those people who agreed with the statement (OR=2.67, CI=1.28-5.55). ***OTHER:*** 7. People reporting high levels of self-efficacy were 93% more likely to attain sufficient activity than those people reporting low levels of self-efficacy (OR=1.93, CI=1.40-2.64). 8. People reporting high levels of social support for activity were 65% more likely to participate in recreational walking than those people who reported low levels of social support [OR=1.65, CI=(1.17-2.34)]. (No p-values provided)

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Mota, Gomes (2007) Portugal	Perceptions of neighborhood safety ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Neighborhood aesthetics 2. Access to recreation facilities *Complex:* 1. Social environment	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 1561adolescents (815 girls, 746 boys) in grades 7-12 from 11 public secondary schools from Aveiro District, Portugal ***PRIMARY OUTCOME:*** Leisure time physical activity (LTPA) ***MEASURES:*** 1. Height and weight (body mass index [BMI]) 2. Leisure Time Physical Activity [LTPA] Questionnaire (student engagement in organized and non-organized sports) 3. International Classification of Professions (parent socioeconomic status [occupation]) 4. Portuguese Educational system (parent socioeconomic status [education level]) 5. Screen time (duration of television and computer use [hours] past week) 6. Perceptions of Environment Questionnaire (Environmental Module of the International Physical Activity Prevalence Study: access to destinations, street connectivity, walking and cycling infrastructure, neighborhood safety, social environment, aesthetics, recreation facilities) ***DATA COLLECTION:*** A questionnaire using the Environmental Module (Perceived Neighborhood Environments) of the International Physical Activity Prevalence Study and a questionnaire for physical activity were administered. Questionnaires were completed during physical education classes in spring 2004. Questions from the neighborhood perception survey were previously used for Portuguese adolescents and showed good reliability (intraclass correlation coefficient [ICC] = 0.36–0.79). The reliability of the leisure time activities questionnaire (in a 1-week interval) was high (intraclass correlation coefficients [ICC] = .91 and .92). Individuals who did not report organized or non-organized physical activity were classified as non-active and were specifically defined as NLTPA=no leisure time physical activity; ALTPA=active during leisure time physical activity. Three groups were developed for screen time when combining TV watching and computer use: less than 1 hour per day, 2-3 hours per day, and more than 4 hours per day. ***LIMITATIONS:*** Cross-sectional design limits inferences of causality; data is needed to replicate these findings using a longitudinal design	General population, Urban 11-18 year olds, average age: 14.7 (±1.6) years, (evaluation sample) ***ELIGIBILITY:*** Informed written consent was obtained from participants and parents. ***EXPOSURE/ PARTICIPATION:*** 1800 students from the 11 schools were potentially able to complete the surveys.	***LEAD AGENCY:*** Researchers were from the Research Centre in Physical Activity and Leisure, University of Porto, Porto, Portugal. ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** This study was supported by two grants Fundacão Calouste Gulbenkian and PAFID. ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. In girls, access to recreational facilities (Rho = 0.10, p≤0.02) and aesthetics features (Rho= 0.12, p≤0.006) were positively associated with LTPA while personal safety (crime rate) was significantly and negatively (Rho = -0.10, p≤0.02) associated with LTPA. 2. Logistic regression analysis (data not shown) showed that girls who agreed that "the crime rate in my neighborhood makes it unsafe or unpleasant to walk in my neighborhood" were more likely to be NLTPA (OR = 0.60, 95% CI = 0.39–0.91, p = .02) and that those who agreed that "there are many interesting things to look at while walking in my neighborhood" were more likely to be LTPA (OR = 1.59, 95% CI = 1.07–2.34, p ≤ 0.02). The analysis also showed in girls that the increase in 1 hr of TV watching (1 hr category to 2–3 hr category) was a significant predictor of LTPA (OR = 0.38, 95% CI = 0.15–0.99, p ≤ 0.05). 3. Social environment for boys (Rho= 0.11, p≤0.05) and girls (Rho = 0.08, p≤0.02) showed to be significantly associated with LTPA.

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Kamphuis, Van Lenthe (2008) The Netherlands	Neighborhood safety ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Access to places for physical activity 2. Neighborhood aesthetics *Complex:* 1. Social disorder and support	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 3839 adults in 177 neighborhoods in Eindhoven and surrounding areas ***PRIMARY OUTCOME:*** Participation in sports ***MEASURES:*** 1. 2004 GLOBE postal survey (neighborhood [safety, attractiveness, places for physical activity, poor weather, social network, social cohesion, feeling at home, social disorganization, length of residence], household [indicators of material deprivation, indicators of social deprivation], and individual factors [positive and negative expectancies of physical activity, social influences, self-efficacy]; physical activity cognitions; socioeconomic status and demographic data [educational attainment, age]) 2. Short Questionnaire to Assess Health-enhancing Physical Activity [SQUASH] (sports participation [up to 4 sports participants participated in weekly for the previous month] frequency, duration, and intensity of sports participation and physical activity) ***DATA COLLECTION:*** Data for this study was collected from the results of a large-scale postal survey, a wave of the longitudinal GLOBE study in October 2004. Selection of items for the GLOBE questionnaire was based on a literature review, expert meetings, and focus groups conducted with residents living in the city of Eindhoven. Items measuring neighborhood, household, and individual factors were mostly derived from existing scales. SQUASH is a validated Dutch questionnaire to measure various types of physical activity among an adult population: commuting, leisure time, sports, occupational, and housekeeping activities. ***LIMITATIONS:*** Self-reported data may lead to response bias; cross-sectional study design does not allow causality or temporal inferences to be made; objective neighborhood factors were not included; classification system used has not been standardized; individual-level cognition items were not behavior specific for sports participation	Adults, 25-75 years old Mean number of participants per neighborhood =21; range=3-70. Compared with higher educational groups, people in the lowest education group were more likely to be female, and to be born in a country other than the Netherlands. (evaluation sample) ***ELIGIBILITY:*** Participants for the GLOBE study were eligible if they did not have health problems that prohibited physical activity and if they fell into neighborhoods that had too few participants. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** The researchers were from Erasmus University Medical Centre, Queensland University of Technology, University Medical Center Groningen, and VU University Medical Center. ***THEORY/ FRAMEWORK:*** Social Cognitive Theory and the Theory of Planned Behavior were included in developing the survey. ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** Ministry of Public Health, Welfare and Sport and the Health Research and Development Council ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. Unsafe neighborhood (OR=1.77, 95%CI: 1.18-2.65, p=0.005), unattractive neighborhood (OR=1.45, 95%CI: 1.2-1.75, p<0.001), insufficient places (OR=1.16, not significant), poor weather (OR=1.19, 95%CI:1-1.41, p=0.051), small social network (OR=1.23, 95%CI: 1.05-1.45, p=0.006), low social cohesion (OR=1.17, 95%CI: 1-1.38, p<0.001) increased the likelihood of not participating in sports. 2. In the full model, two neighborhood factors (safety and social cohesion), three household factors (material deprivation [crowding] and social deprivation [going out fortnightly and going on holiday yearly], and nine individual factors (six outcome expectancies, social support modeling, self-efficacy, and intention) remained statistically significant. Compared with the basic model, all factors together reduced the odds of doing no sports among the lowest educational group by 57% (OR=2.29, 95% CI: 1.7-3.07), for the second-lowest by 48% (OR=1.62, 95% CI: 1.34-1.96), and for the second-highest by 26% (OR=1.48, 95% CI: 1.23-1.78). 3. People indicating not feeling at home in their neighborhood (OR; 1.26, 95% CI; 1.07-1.48, p=0.018) were also more likely to do no sports, but this was not significantly prevalent among any of the educational groups (p=0.093).

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Mota, Gomes (2007) Portugal	Perceived neighborhood safety ***OTHER INTERVENTION COMPONENTS:*** *Multi-component* 1. Street connectivity *Complex* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 705 girls in grades 7-12 in 11 urban public secondary schools in Aveiro District, Portugal ***PRIMARY OUTCOME:*** Active transportation ***MEASURES:*** 1. Height and weight (body mass index [BMI]) 2. Student questionnaire (transportation behaviors to and from school [walk, bike, car, bus], screen time in the previous week) 3. Parent questionnaire (occupation [International Classification of Professions], education level) 4. Perceived Neighborhood Environments questionnaire (access to destination, street connectivity, infrastructure for walking and cycling, neighborhood safety, social environment, aesthetics, and recreation facilities) ***DATA COLLECTION:*** The student questionnaire data used for this study had been collected during physical education classes in Spring 2004. The parent questionnaire was sent to the students' residences. The environment questionnaire used the Environmental Module (Perceived Neighborhood Environments) of the International Physical Activity Prevalence Study categorizing response on a four-point scale. ***LIMITATIONS:*** No analysis of distance traveled to school; cross-sectional design limits causality and temporal inferences; participants who did not travel home in the same way that they traveled to school were excluded from analyses	13-18 year old females (mean age 17.7 ± 1.6 years evaluation sample) ***ELIGIBILITY:*** Informed written consent was obtained from the participants and their parents. Eligible participants had to travel to and from school using the same mode. ***EXPOSURE/ PARTICIPATION:*** Potential sample included all 841 girls from the 7th to 12th grades registered at the participating schools (90% response rate).	***LEAD AGENCY:*** The research team was from the University of Porto, Portugal ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** Programa de Apoio Financeiro à Investigação no Desporto (PAFID) ***STRATEGIES:*** Not applicable	***OVERWEIGHT/OBESITY:*** 1. No statistically significant differences were found for BMI between active and passive travelers. ***PHYSICAL ACTIVITY:*** 2. For neighborhood environment characteristics, only street connectivity was significantly different between the travel groups. 56.0% of active vs. 46.1% of passive travelers agreed that there were many 4-way intersections in their neighborhood (p=0.02). Girls who agreed that there were many four-way intersections in their neighborhood were more likely to be active travelers (OR=1.63, 95% CI=1.08-2.45, p≤0.05). 3. Neighborhood safety was of borderline statistical significance (p=0.07). 21.8% of active vs. 28.8% of passive travelers agreed that neighborhood crime made it unsafe or unpleasant to walk. ***SCREEN TIME:*** 4. No statistically significant differences were seen for screen time between active vs. passive travel groups.

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Santana, Santos (2008) Portugal	Neighborhood safety (property crime) ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Access to gymnasiums and swimming pools *Complex:* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 7,669 individuals living in 143 neighborhoods in the Lisbon Metropolitan Area (LMA) ***PRIMARY OUTCOMES:*** Overweight/obesity, physical activity, and fruit and vegetable intake ***MEASURES:*** 1. National Health Survey (NHS) 1998-1999 (height and weight [body mass index], leisure activities, fruit and vegetable intakes, vigorous and moderate intensity activity 2. Observations (ecological indices [local resources, social capital, availability of public health services, deprivation], housing inadequacy, urban sprawl, mixed land-use, availability of sport features) ***DATA COLLECTION:*** Individual level data was collected by trained interviewers for the National Health Survey 1998-99. Body mass index (BMI) was calculated from self-reported height and weight. Vigorous physical activity was considered to be competitive sports, jogging or other recreational sports, while moderate activity included walking, cycling and other light activities. A healthy diet was defined in accordance with self-reported fruit and vegetable intake on the day before the interview. At the neighborhood level, observational data was used. Three composite ecological indices (local resources, social capital and public health services availability) were created through Principal Components Analysis (PCA). All other indicators were single measures, i.e., proxies of housing inadequacy, urban sprawl, mixed land use and availability of sport features. ***LIMITATIONS:*** Cross-sectional design does not allow for causal or temporal inferences; self-reported data may lead to response bias	Adults, General Population, 53.5% Female, 46.5% Male (evaluation sample) The LMA comprises 19 municipalities, 216 neighborhoods, and over 2.5 million inhabitants. The mean population for all of the neighborhoods was 12,420 inhabitants. ***ELIGIBILITY:*** Not reported ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** Researchers were from the Centre for Geographic Studies, Institute for Geographical Studies University of Coimbra. ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** A large body of literature has established links between the neighborhood environment and BMI. ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** The Portuguese Foundation for Science and Technology "Healthy Urban Planning" ***STRATEGIES:*** Not applicable	***OVERWEIGHT/OBESITY:*** 1. BMI increased in association with crimes against property (OR=1.02, 95% CI= 1.01-1.03, p<0.05) while the odds of being obese or overweight reduced when there were public health services available (OR= 0.84, 95% CI= 0.74-0.95, p<0.05). ***PHYSICAL ACTIVITY:*** 2. Strong positive associations were found between moderate physical activity and social cohesion (OR=1.28, 95%CI: 1.09-1.52, p<0.05) and availability of public health services (OR=1.38, 95% CI= 1.14-1.66, p<0.05). 3. There was a negative association between moderate physical activity and crimes against property (OR=0.98, 95% CI= 0.97-0.99, p<.05). 4. Vigorous physical activity was negatively associated with traffic accidents involving victims (OR=0.97, 95% CI=0.93-1.02) lack of gymnasiums (OR=1.17, 95% CI= 1.01-1.36, p<0.05) and swimming pools (OR=1.17, 95%CI: 1.01-1.35, p<0.05), and weaker social cohesion (OR=1.24, 95%CI: 1.01-1.52, p<0.05). ***NUTRITION:*** 5. Fruit and vegetable intake was negatively associated with the number of crimes against property (OR= 0.98, 95% CI=0.98-0.99), p<0.05).

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Craig, Brownson (2002) Canada	Perceptions of safety from crime ***OTHER INTERVENTION COMPONENTS:*** *Multi-component*: 1. Levels of urbanization 2. Perceptions of traffic safety 3. Neighborhood aesthetics *Complex:* 1. Social support in the environment	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** Approximately 296,541 residents from a convenience sample of 27 neighborhoods in Ontario, Quebec and Alberta. ***PRIMARY OUTCOME:*** Walking to work ***MEASURES:*** 1. 1996 Canadian Census self-administered questionnaire (education, income, mode of transportation, family size) 2. Neighborhood observations (environmental composite score [number of facilities, mix of facilities, accessible to pedestrian, potential to see other people, walking routes, meets pedestrians' needs, connection to transport modes and traffic, amount and variety of stimuli, aesthetics, time and effort, traffic threats, safety from crime, potential for crime]) ***DATA COLLECTION:*** The current study was designed to merge data from two Canadian sources a neighborhood observational study (27 observations) and the 1996 Canadian Census. Data collectors received a two-day training before conducting observations. Ratings were compiled for the neighborhoods using a ten-point Likert-type scale between late fall 1999 and early spring 2000. Observations were taken during the morning and afternoon over both weekday and weekend days. In a small sub-study, the same observers independently coded environmental factors in two or four assigned neighborhoods, which yielded 156 values. Three-level hierarchical linear models estimated inter-rater reliability, correlations ranged from 0.9-1.0. One fifth of the Census respondents received a longer version, including questions on education, income, and usual mode of transportation to work, with the latter including "walking to work" as a distance response category. ***LIMITATIONS:*** Cross-sectional study design does not allow for causal or temporal inferences to be made; distance of destination was not accounted for in the study design	General Population The observed neighborhoods were known for diversity of urban design, social class, and economic status. ***ELIGIBILITY:*** All citizens, landed immigrants, and nonpermanent residents were eligible to participate. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** The research team was from the Canadian Fitness and Lifestyle Research Institute, Saint Louis University, and the Cooper Institute for Aerobics Research. ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** The Physical Activity Unit, Health Canada, Government of Canada ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. Walking to work was significantly related to the environment score (T-ratio (25)=3.32, p=0.003), with a one-unit increase in the score being associated with a 25-percentage-point increase in the percentage walking to work. 2. The degree of urbanization altered the relationship between the environment score and walking to work (no statistical data) 3. The predicted environment score was lower in both small urban (T-ratio (23)=-3.61, p=0.002; Coefficient; -0.77) and suburban neighborhoods (T-ratio (23)=-4.42, p<0.001; Coefficient=-0.12) than in urban neighborhoods. 4. The environment score was related to the percentage walking to work, controlling for degree of urbanization (T-ratio (23)=2.03, p=0.054; Coefficient=0.02). ***OTHER:*** 5. The environmental factor coefficients ranged from -1.82 to 2.20. Each factor was a significant contributor to the variation of the environment score (mean p=0.10 for "transportation system" and p<0.05 for other factors), except for visual interest and aesthetics. The inclusion of environmental factors (destinations, social dynamics, transportation system, and traffic) reduced the variation in the score by 46%.

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Humpel, Owen (2004) Australia	Perceptions of neighborhood safety ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Access to areas for physical activity (beach, lake, facilities) 2. Aesthetic environment 3. Distance to destinations *Complex:* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 399 respondents: clients from a health insurance organization ***PRIMARY OUTCOME:*** Walking behavior ***MEASURES:*** 1. Neighborhood Environment Walkability Scale [NEWS] (adapted measures on environment attributes including aesthetics, accessibility, safety, and weather) 2. Self-reported survey (walking for transport, exercise, and pleasure, walking frequency, walking duration, postal codes, and sociodemographics) 3. 1996 Australian Bureau of Statistics Census data (coastal and non-coastal locations) ***DATA COLLECTION:*** The survey was sent in the spring. Reported frequency of walking was multiplied by the number of usual minutes, to give an index of estimated minutes of walking each week, for each type of walking. Reliability of the neighborhood walking item had been examined previously. Neighborhood environment attribute items were collected from previous studies and the Neighborhood Environment Walkability Scale items (NEWS-valid instrument), (ICC range 0.73-0.91). The scores of aesthetics, accessibility, safety, and weather were transformed into categorical variables with three levels: low, a less positive perception of the environment; moderate; or a highly positive perception of the environment. A structured query language identified postal areas that intersect the coastline for non-coastal (27%) and coastal (73%) locations. ***LIMITATIONS:*** Causal inferences cannot be made using a cross-sectional study design; survey data was self-reported, which may lead to response bias; there was a low response rate; the sample was from an extremely specified primarily coastal region	Adults 57% Female ***ELIGIBILITY:*** A list of clients aged >40 years from a health insurance organization were eligible for the study. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** Researchers were from the University of Wollongong, the University of Queensland, and the University of New South Wales ***THEORY/ FRAMEWORK:*** Ecologic model of health behavior ***EVIDENCE-BASED:*** Previous Australian studies have found physical activity to be higher among coastal residents, after adjusting for education attainment and other demographic factors. ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not applicable ***PROCESS EVALUATION:*** Not applicable	***RESOURCES:*** Not applicable ***FUNDING***: The Carelink, a division of the Australian Health management Group, a registered health benefits organization ***STRATEGIES***: Not applicable	***PHYSICAL ACTIVITY:*** 1. A higher proportion of those with the most positive perceptions for all four environmental perception categories reported more neighborhood walking (data not shown). 2. Higher proportions of neighborhood walkers were found among those with high perceptions for aesthetics (66.7%; χ^2=17.08, p<0.001). 3. Significantly higher proportions of those walking for exercise were found among those with the most positive perceptions for all four environmental perception categories (results not shown). 4. A higher proportion of those with the most positive perceptions for accessibility reported more walking for pleasure (45.2%; χ^2=7.28, p<0.05). 5. No significant differences in proportions were found for walking to get from place to place. 6. Participants living in coastal locations (mean [M]=189 minutes) walked significantly more minutes in their neighborhood (F(1,382)=5.10, p<0.05) than did participants in noncoastal locations (M=149 minutes). 7. Participants reporting that a beach/lake was within easy walking distance reported significantly more neighborhood walking minutes (M=224) than did those reporting a beach/lake was not within walking distance (M=139; F(2,379)=11.0, p<0.001); significantly more exercise walking (M=163 compared to M=100 minutes; F(2,382)=9.72, p<0.001); and significantly more walking for pleasure compared to those perceiving that a beach/ lake is not within walking distance (M=33 and M=21, respectively; F(2,380)=3.88, p<0.02). 8. Men with the most positive perceptions about the aesthetic nature of the environment were more than seven times more likely to be high neighborhood walkers (OR=7.43; 95% CI=1.92-28.82; p<0.05). 9. For men, accessibility of facilities for walking demonstrated a negative relationship with neighborhood walking (for high walkers: OR=0.30; 95% CI=0.09-0.91; p<0.05). 10. No evidence of a relationship between safety and neighborhood walking was found for men or women. 11. Men with a high score on aesthetics were nearly four times as likely to walk for exercise (OR=3.86; 95% CI=1.03-14.46; p<0.05). 12. Men who perceived their environment as highly safe for walking were less likely to walk for pleasure (OR=0.22; 95% CI=0.06-0.78; p<0.05). 13. Women with moderately positive perceptions about accessibility were more than three times more likely to walk for pleasure (OR=3.51; 95% CI=1.64-9.15, p<0.01).

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Prezza, Pilloni (2001) Italy	Perceptions of interpersonal safety ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* Not reported *Complex:* 1. Social support	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 251 mothers of children living in buildings in 5 middle class neighborhoods in Rome, 2 of recent urbanization and 3 older ones. Buildings overlooked targeted urban spaces (80 inhabitants with an inside courtyard, 80 in a building with an entrance on a private street, and 91 in a building next to a park) ***PRIMARY OUTCOME:*** Use of neighborhood space ***MEASURES:*** 1. Semi-structured interview (sociodemographic information, perception of safety in the neighborhood [interpersonal, traffic], habits regarding autonomous urban mobility of the child [accompaniment to and from school and play areas, supervision for play outside, daytime and after-dark tasks achieved independently by child], child's use of space adjacent to the building [type of location, frequency of use, whether used independently, social components], child's interaction with peers for play) 2. 18-item Italian Scale of Sense of Community (mothers' sense of their community). 3. 7-item Neighborhood Relations Scale (mothers' quantity and quality of neighborhood relations). ***DATA COLLECTION:*** University psychology students administered a semi-structured interview to all mothers as well as a sense of community scale and a neighborhood relations scale. The items for sense of community were developed by translating and modifying Davidson and Cotter's (1986) Scale of Sense of Community, which had been previously tested to show a Cronbach's aof 0.83. For the Neighborhood Relations Scale 4 items were taken from Buckner's (1988) scale, which had been previously tested to show a Cronbach's a of between 0.86 and 0.89. ***LIMITATIONS:*** Self-reported data may lead to response bias; study may not be generalizable to populations other than middle class neighborhoods of a large Italian city	Urban, Middle-class, 7-12 year olds (average age=9.41 years), 53% Male, 26.3% Were only children (evaluation sample) The percentage of 6-13 year old children in the newer neighborhoods was 8.17% of the total population and in the three older neighborhoods was 5.33%. No significant differences were found regarding children's demographic characteristics either when they were sub-divided according to type of neighborhood or to type of space utilizable near home. (all sample children) ***ELIGIBILITY:*** Mothers who were residents of the recently urbanized or older neighborhoods were eligible for participation. ***EXPOSURE/ PARTICIPATION:*** Not reported	***LEAD AGENCY:*** The research team was from the University 'La Sapienza' and the Psychology Institute at the National Research Council in Rome. ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** Not reported ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. Child's play with peers was associated with safety perception (β=-0.14, p<0.05) and neighborhood relations (β=0.229). ***USE OF NEIGHBORHOOD SPACE:*** 2. Children who moved around their own neighborhood with greater autonomy and played without always being closely supervised by adults met with peers to play more often (partial r between independent mobility and play with peers=0.37, p<0.001; between school errands autonomy and play with peers=0.37, p<0.001). 3. Children whose mothers had stronger neighborhood relations played more often with peers (p<0.001), in particular with neighborhood children (p<0.001), and they exchanged more visits with friends (p<0.001). ***SOCIAL ENVIRONMENT:*** 4. After adding mothers psycho-social variables to the multiple regression analysis child's independent mobility was found to be associated with traffic perception (β=0.129, p<0.05) and neighborhood relations (β=0.196, p<0.001); child's autonomy in home-school route and in errands was associated with neighborhood relations (β=0.12, p<0.05). 5. After adding environmental variables to the multiple regression analysis, child's independent mobility was associated with neighborhood relations (β=0.118, p<0.05), age of neighborhood (β=0.181, p<0.01), living near a park (β=0.179, p<0.01), and living near a courtyard (β=0.379, p<0.001); child's autonomy in home-school route and in errands was associated with living near a courtyard (β=0.296, p<0.001); and child's play with peers was associated with safety perception (β=-0.13, p<0.05) and neighborhood relations (β=0.191, p<0.01).

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Lee, Kawakubo (2006) Japan	Perceptions of neighborhood safety from crime ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Perceptions of neighborhood traffic safety 2. Street connectivity (alternate routes to locations) 3. Access to parks and trails 4. Distance to destinations within the neighborhood *Complex:* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 432 adults in two wards: one in metropolitan Tokyo (high walkability region, n=237) and one in rural northeastern Japan (low walkability region, n=195) ***PRIMARY OUTCOME:*** Walking behavior ***MEASURES:*** 1. Questionnaire (demographic data, daily walking, frequency and duration of walking for exercise, for commuting, and for purposes other than exercise, perception of neighborhood environment, total walking time, accessibility, safety, convenience, aesthetics, weather) ***DATA COLLECTION:*** Data was taken from a questionnaire collected for a local government health promotion program in January 2004. Total walking time (walking time for exercise, commuting or shopping and others) was used as neighborhood walking time. Responses regarding the perception of neighborhood characteristics were selected from a 6-point Likert scale ranging from strongly disagree (0) to strongly agree (5). The higher the score the more positive participants' perceptions were. Previous studies provided the definition for high walkability and low walkability regions. Questions were developed for Japanese neighborhood environmental characteristics by modifying questions from earlier studies, ICC of questionnaire 0.70. ***LIMITATIONS:*** Variation in participant's environment was not accounted for in this study; causal relationships cannot be established using a cross-sectional study design; because this study is cross-sectional it does not represent all respondents in the region; data came from participants in a health promotion study which may have led to selection bias	Adults, 56% Female (evaluation sample) ***ELIGIBILITY:*** Eligibility for the health promotion program was not discussed. Participants signed a consent form. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** Researchers were from the University of Tokyo, Kyoritsu Women's University, Alliant International University, and the University of Tokyo ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** This study was based on earlier studies that showed comparisons between different regions with large variations in neighborhood's physical environments that correlate to the factors affecting the walking behavior of residents, such as residential density, mixed land use and street connectivity. ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not reported ***FUNDING:*** The Japan Ministry of Health, Labor and Welfare as a part of the Study of the Evaluation of Community Environments for the Effective Health Promotion Plan, and by a grant from the Japan Ministry of Education, Culture, Sports, Science, and Technology as part of the Study of the Evaluation of Neighborhood Environments Affecting Residents' Daily Physical Activity. ***STRATEGIES:*** Not reported	***PHYSICAL ACTIVITY:*** 1. In the safety category, the score for "Vehicular traffic does not hinder taking a walk" was significantly higher in the low walkable region (high; mean [sd]; 2.49[1.48], vs. low; 3.08[1.55], $p<0.01$). In the safety category the variable, "The sidewalk is well-lit even at night", showed significantly higher scores in the high walkable region (high; mean [sd]; 2.97[1.32] vs. low; 2.11[1.42], $p<0.01$). 2. In the convenience category, the score for "The sidewalks are wide enough to walk on" was significantly higher in the low walkable region (high; mean [sd]; 2.54[1.50] vs. low; 3.04[1.50], $p<0.01$), whereas that for "The walking map of the neighborhood is useful" was significantly higher in the high walkable region (high; mean [sd]; 3.58[1.29], vs. low; 2.45[1.64], $p<0.01$). 3. Those who had high scores for "There are sidewalks suitable for walking in the neighborhood" (high walkable: low perception mean [sd] 191.7[200.6] vs. high perception mean [sd] 302.9[279.7], $p<0.05$) (low walkable: low perception mean [sd] 125.9[182.1] vs. high perception mean [sd] 211.3[234.5], $p<0.05$) spent significantly more time walking in both regions. 4. In the high walkable region, those who had high scores for "There is a park nearby that is suitable for taking a walk in" (low perception mean [sd]: 190.8[195.0] vs. high perception mean [sd] 300.2[279.5], $p<0.05$), "There is a river (or a beach) within walking distance" low perception mean [sd]: 217.2[211.7] vs. high perception mean [sd] 299.1[283.6], $p<0.05$), and "The neighborhood is conducive for taking a walk" (low perception mean [sd]: 245.0[233.5] vs. high perception mean [sd] 323.4[308.5], $p<0.05$) spent significantly more time walking. 5. In the low walkable region, those who had high scores for "There are several ways to get to one place" (low perception mean [sd]: 124.9[139.9] vs. high perception mean [sd]: 201.4[249.4], $p<0.05$), "It is easy to cross streets" (low perception mean [sd]: 145.1[162.7] vs. high perception mean [sd]: 214.6[270.2], $p<0.05$), "The sidewalks have few inclines and are easy to walk on" [low perception mean [sd]: 89.7[88.2] vs. high perception mean [sd]: 215.6[245.9], $p<0.01$) and "The sidewalks are wide enough to walk on" (low perception mean [sd]: 132.2[138.8] vs. high perception mean [sd]: 232.8[284.5], $p<0.01$) spent significantly more time walking. 6. Those who had high scores for "Residents in the neighborhood are friendly" spent significantly more walking time in both regions (high walkable: low perception mean [sd]: 234.2[212.2] vs. high perception mean [sd] 381.0[254.5], $p<0.01$) (low walkable: low perception mean [sd]: 135.9[157.1] vs. high perception mean [sd]: 228.3[271.0], $p<0.05$).

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Stafford, Cummins (2007) England and Scotland	Perceptions of neighborhood disorder (crime) ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Access to street facilities 2. Land-use diversity, urban sprawl, and population density *Complex:* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 6848 respondents ***PRIMARY OUTCOME:*** Overweight/obesity ***MEASURES:*** 1. Combined data; Health Survey for England [HSE] and Scottish Health Survey [SHS] (sociodemographic data, height and weight (body mass index [BMI]), waist and hip circumference) 2. Registrar General's classification (social class categorization) 3. Manchester Information and Associate Services table (conversion of ward boundaries to postcode sectors [neighborhood boundaries]) 4. Central government departments, local authorities, voluntary and public sector agencies, commercial and industrial organizations databases (crime, policing, physical dereliction, high street services [e.g., local shops, financial services], leisure centers, supermarkets, fast-food outlets, urban sprawl) 5. 70-item Neighborhood Survey (neighborhood disorder, participation in sports clubs, gyms and exercise classes) 6. Geographic Information Systems (GIS) (geocoding contextual variables) ***DATA COLLECTION:*** Data from the Health Survey for England [HSE] (1994-1999) and the Scottish Health Survey [SHS] (1995 and 1998) were combined to form the data set. A secondary 70-item survey was developed using cognitive pilot testing. The questionnaire was sent to respondents from the 2 health surveys neighborhoods, not the Health Survey participants themselves. The data were obtained at various spatial scales and converted to postcode sector. Social class was discussed in 6 categories with I being the highest and V being the lowest category. ***LIMITATIONS:*** Intermediate health behaviors (physical activity and diet) were not included; there was no information related to the residential area; possible self-selection; cross-sectional study design; crime rate is not homogenous within a local authority; environmental data may not match residents' psychologically defined local area; some environmental data were only available at local authority district level	General population, 16 years and older (targeted sample) The data was representative of the general population of England and Scotland. The sample of postcode sectors slightly over-represented deprived and urban post-code sectors in England and under-represented deprived postcode sectors in Scotland. ***ELIGIBILITY:*** Individuals from the electoral register over the age of 16, living in the same neighborhoods as participants in the 2 health surveys were surveyed. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** Researchers were from the UCL Medical School, London, United Kingdom; Queen Mary, University of London, United Kingdom; the MRC Social and Public Health Sciences Unit, United Kingdom; and the City University, United Kingdom. ***THEORY/ FRAMEWORK:*** A model based on existing literature linking socio-relational characteristics, the built environment, and local facilities and services was created. ***EVIDENCE-BASED:*** Several studies have found neighborhood social disorder and elements of social capital to be related to obesity. Several studies have linked the built environment to obesity and its determinants. ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** The author is funded by the Department of Health ***STRATEGIES:*** Not applicable	***OVERWEIGHT/OBESITY:*** 1. For population density, the corresponding mean difference in BMI was 0.36 kg/m^2 and for supermarkets it was 0.44 kg/m^2 (results not shown). 2. Population density was inversely associated with waist-to-hip ratio (coefficient =-0.041, $p<0.05$), indicating that average waist-to-hip ratios were lower in more densely populated areas. 3. BMI was indirectly linked to neighborhood disorder through average sports participation rate (indirect path coefficient =0.013, $p<0.05$). 4. Resident's BMI was negatively associated with average sports participation rate (coefficient=-0.038), high street facilities (coefficient= -0.033), and proximity to a post office (coefficient= -0.019) ($p<0.05$ for all). 5. Comparing the 75th and 25th percentile of average sports participation, mean BMI was 0.23 kg/m^2 lower in places with greater participation. 6. Greater neighborhood disorder was associated with a higher waist-to-hip ratio (coefficient=0.053, $p<0.05$).

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Burton, Turrell (2005) Australia	Perceptions of neighborhood traffic safety ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Neighborhood aesthetics 2. Access to places for physical activity 3. Access to streetlights (safety) 4. Access to public transit *Complex:* 1. Social support in the neighborhood 2. Self-efficacy for physical activity	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 1827 participants from the Australian Commonwealth electoral roll current as of October 1999 ***PRIMARY OUTCOMES:*** Walking, moderate-intensity and vigorous-intensity physical activity, and total physical activity ***MEASURES:*** 1. Questionnaire (frequency, duration, intensity, and types of physical activity, perceived health, cognition, self-efficacy, anticipated benefits, perceived barriers, social support, neighborhood environment, traffic, facilities, and demographic data) ***DATA COLLECTION:*** The mail surveys were delivered in September 2000. The psychological, social, and environmental correlates were measured using a battery of scales that were previously developed using qualitative and quantitative research. The questionnaire had an internal consistency of Cronbach's alpha values ranging from 0.69 to 0.89. The maximum "allowable" time doing any one of the three types of activity was 14 hours/week; any greater time was recoded to 14 hours. The maximum "allowable" time across the 3 activities was 28 hours/week; any greater time was recoded to 28 hours. For each type of activity, the total time (in minutes) was multiplied by an intensity value of METs. To measure total activity participation, the time and MET product scores for walking and intensity were summed to provide a total energy expenditure score for the preceding week. The environmental scale was developed from a battery of items, which led to the inclusion in multiple strategies. ***LIMITATIONS:*** Cross-sectional design does not allow for causal or temporal inferences to be made; questionnaire data is self-reported	Adults, 18-64 years old ***ELIGIBILITY:*** Eligible participants were registered as Australian adult citizens, 18 to 65 years of age living in Brisbane. ***EXPOSURE/ PARTICIPATION:*** Not reported	***LEAD AGENCY:*** Researchers were from the University of Queensland, St. Lucia, Queensland University of Technology, and San Diego State University ***THEORY/ FRAMEWORK:*** Contemporary ecological models ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** The Queensland University of Technology and the National Heart Foundation of Australia ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. Environmental variables (physical features, aesthetic features, traffic, facilities) contributed the least to vigorous intensity activity. 2. The proportion of unique variation (Nagelkerke R^2) accounted for in walking, moderate-intensity, vigorous-intensity activity, and total physical activity by the environmental correlate group is 0.6, 1.1, 0.4, and 1.2, respectively. 3. Neighborhood aesthetics contributed more to walking (Nagelkerke R^2=0.4%), and the barrier of family obligations contributed more to total and moderate-intensity activity.

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Veugelers, Sithole (2008) Nova Scotia, Canada	Perceptions of neighborhood safety ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Access to shops and stores with fruits and vegetables 2. Neighborhood access to parks, playgrounds and recreational facilities 3. Access to stores (mixed land-use) *Complex:* Not reported	***DESIGN:*** Cross-sectional study ***INTERVENTION DURATION:*** Not applicable ***SAMPLE SIZE:*** 4966 fifth grade students from 282 elementary schools ***PRIMARY OUTCOME:*** Overweight/obesity and sports engagement, consumption of fruits and vegetables, sedentary behavior ***MEASURES:*** 1. Children's height and weight (body mass index [BMI]) 2. Parental survey (socioeconomic status, neighborhood characteristics, child physical activity) 3. Child Harvard Food Frequency questionnaire (number of daily servings of fruits and vegetables [F&V], percent of energy obtained from dietary fat) ***DATA COLLECTION:*** Children's height and weight measurements were collected by research assistants and public health staff. Children's physical activity was based on parental responses and characterized in terms of number of times per week the child engages in sports with/without a coach and number of hours per day child spends playing video games, watching TV or using the computer. Based on the food frequency questionnaire, diet was characterized in terms of 1) number of daily servings of F&V, 2) % energy obtained through dietary fat, and 3) a diet quality index ***LIMITATIONS:*** Study participation rates were slightly lower in residential areas with lower average household income, so the authors calculated response weights to overcome potential non-response bias.	5-13 year olds 10.8% lower-income (income <20,000) [evaluation sample] ***ELIGIBILITY:*** Children whose parents did not complete the parental survey, or who reported energy intakes less than 500 kilocalories (kcal) or greater than 5,000 kcal per day were excluded from data analysis (n=1173). ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** Researchers from the University of Alberta and the University of Saskatchewan. ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** Canadian Population Health Initiative, Canadian Institute of Health Research New Investigator Award, Canada Research Chair in Population Health Scholarship, and Alberta Heritage Foundation for Medical Research Scholarship ***STRATEGIES:*** Not applicable	***OVERWEIGHT/OBESITY:*** 1. Children in neighborhoods with good access to playgrounds and parks were 24% less likely to be overweight (OR=0.76, 95% CI=0.62-0.95) and 29% less likely to be obese (OR=0.71, 95% CI=0.53-0.99) than children in neighborhoods with poor access. 2. Children in neighborhoods with good access to recreational facilities were 29% less likely to be overweight (OR=0.71, 95% CI=0.56-0.90) and 42% less likely to be obese (OR=0.58, 95% CI=0.40-0.84) than children in with poor access. 3. Children in neighborhoods with good access to shops were 26% less likely to be overweight (OR=0.74. 95% CI=0.60-0.91) and 33% less likely to be obese (OR=0.67, 95% CI=0.48-0.94) than children from neighborhoods with poor access to shops. 4. No association between neighborhood safety and overweight and obesity. ***PHYSICAL ACTIVITY:*** 5. Children in neighborhoods with good access to playgrounds, parks and recreational facilities engaged more in sports with a coach than children in neighborhoods with poor access (incremental risk (IR)=1.64, 95% CI=1.38-1.95; IR=1.76, 95% CI=1.47-2.12, respectively). 6. Children in safe neighborhoods engaged more in sports without a coach than children in unsafe neighborhoods (OR=1.23, 95% CI=1.04-1.46). ***NUTRITION:*** 7. Children in neighborhoods with the best access to shops (highest one-third) reported more consumption of F&V [IR]=1.04, 95% CI=1.00-1.09), substantially less consumption of dietary fat (IR=0.51, 95% CI=0.33-0.78), and a higher diet quality index (IR=2.26, 95% CI=1.09-4.69) in comparison to neighborhoods with the poorest access to shops (lowest one-third). ***SCREEN TIME:*** 8. Children in neighborhoods with good access to playgrounds, parks and recreational facilities spent less time in front of a computer or TV screen than children in neighborhoods with poor access (IR=0.72, 95% CI:=0.62-0.84; IR=0.64, 95% CI=0.55-0.75, respectively). [no p-values provided]

Source	Intervention Components	Study Design and Execution	Reach	Adoption, Implementation and Process Evaluation	Enforcement/ Sustainability	Impacts and Outcomes
Timperio, Giles-Corti (2008) Australia	Perceptions of safety from unguarded dogs ***OTHER INTERVENTION COMPONENTS:*** *Multi-component:* 1. Access to and features associated with public open spaces near the home 2. Neighborhood aesthetics *Complex:* Not reported	***DESIGN:*** Cross-sectional study ***DURATION:*** Not applicable ***SAMPLE SIZE:*** 497 students (163 approximately 9 years, 334 approximately 14 years) from 19 elementary schools in high and low socioeconomic areas of metropolitan Melbourne, Australia ***PRIMARY OUTCOME:*** Moderate to vigorous physical activity ***MEASURES:*** 1. Parent questionnaire 2. Accelerometers (child's physical activity levels) 3. Public open space audit (features of public open spaces for physical activity [excluding golf courses and educational institutions]) 4. Geographic Information System [GIS] (geo-code of participant address, closest free public open space to the residence) ***DATA COLLECTION:*** The study drew on data collected in 2004 for the first follow-up of the Children Living in Active Neighborhoods (CLAN) study. Each child wore an accelerometer for 1 week. Total duration (minutes) of moderate-to-vigorous physical activity was calculated for each weekend day and after-school hour during the week. Geographic Information System was used to calculate open spaces along the road network using information gathered from the Open Space 2002 spatial dataset (provided by the Australian Research Centre for Urban Ecology). Trained auditors visited each public open space in 2004 and 2005 (k=0.65, ICC>80% for all items). ***LIMITATIONS:*** Small sample size; the 'closest' public open space may not have included public open space visited by participants; the study did not consider accessibility to closest open public space; physical activity performed in the open space was not considered	5-18 year olds ***ELIGIBILITY:*** Participants were eligible if they had participated in the CLAN study, had complete accelerometry measures, and gave a valid residence that was able to be geo-coded. ***EXPOSURE/ PARTICIPATION:*** Not applicable	***LEAD AGENCY:*** The research team was from the Deakin University and the University of Western Australia. ***THEORY/ FRAMEWORK:*** Not reported ***EVIDENCE-BASED:*** Not reported ***REPLICATION/ ADAPTATION:*** Not applicable ***ADOPTION:*** Not applicable ***IMPLEMENTATION:*** Not applicable ***FORMATIVE EVALUATION:*** Not reported ***PROCESS EVALUATION:*** Not reported	***RESOURCES:*** Not applicable ***FUNDING:*** National Health and Medical Research Council ***STRATEGIES:*** Not applicable	***PHYSICAL ACTIVITY:*** 1. There were no associations between any features of the child's closest public open space and younger boys' moderate-to-vigorous physical activity after school. 2. The presence of playgrounds was positively associated with younger boys' weekend moderate-to-vigorous physical activity (β=24.9 minutes/day; p<0.05), and lighting along paths was inversely associated with weekend moderate-to-vigorous physical activity (β= -54.9 min/day, p<0.05). 3. The number of recreational facilities was inversely associated with younger girls' moderate-to-vigorous physical activity after school (β= -2.6 min/day, p<0.05) and on the weekend (β= -8.7 min/day, p<0.05). 4. There were no associations between any features of the closest public open space and adolescent boys' moderate-to-vigorous physical activity after school. 5. Adolescent girls had more moderate-to-vigorous physical activity after school if their closest public open space had trees that provided shade (β= 5.8 min/day, p<0.01) and had signage regarding dogs (β=6.8 min/day, p<0.05), compared with other girls. 6. There were no significant associations between public open space features and adolescents boys' or girls' moderate-to-vigorous physical activity on the weekend.

REFERENCES

Adkins, S., Sherwood, N. E., Story, M., & Davis, M. (2004). Physical activity among African-American girls: the role of parents and the home environment. *Obesity Research*. 12 Suppl: 38S-45S.

Babey, S.H., Hastert, T.A., Yu, H., & Brown, E.R. (2008). Physical Activity Among Adolescents: When Do Parks Matter? *American Journal of Preventive Medicine*. 34(4): 345-348.

Bennett, G. G., McNeill, L. H., Wolin, K. Y., Duncan, D. T., Puleo, E., & Emmons, K. M. (2007). Safe to walk? Neighborhood safety and physical activity among public housing residents. *PLoS Medicine*. 4(10): 1599-606; discussion 1607.

Boehmer, T.K., Lovegreen, S.L., Haire-Joshu, D., Brownson, R. (2006). What Constitutes an Obesogenic Environment in Rural Communities? *Journal of Health Promotion*. 20(6):411-421.

Brownson, R.C., Housemann, R. A., Brown, D. R., Jackson-Thompson, J., King, A. C., Malone, B. R., & Sallis, J. F. (2000). Promoting physical activity in rural communities: walking trail access, use, and effects. American Journal of Preventive Medicine. 18(3):235-41.

Burdette, H. L., & Whitaker, R. C. (2005). A national study of neighborhood safety, outdoor play, television viewing, and obesity in preschool children. *Pediatrics*. 116(3): 657-62.

Burdette, H. L., & Whitaker, R. C. (2004). Neighborhood playgrounds, fast food restaurants, and crime: relationships to overweight in low-income preschool children. *Preventive Medicine*. 38(1): 57-63.

Burton NW, Turrell G, Oldenburg B, Sallis J. (2005). The Relative Contributions of Psychological, Social, and Environmental Variables to Explain Participation in Walking, Moderate-, and Vigorous-Intensity Leisure-Time Physical Activity. *Journal of Physical Activity and Health*. 2:181-196.

Carnegie, M. A., Bauman, A., Marshall, A. L., Mohsin, M., Westley-Wise, V., & Booth, M. L. (2002). Perceptions of the physical environment, stage of change for physical activity, and walking among Australian adults. *Research Quarterly for Exercise and Sport*. 73(2): 146-55.

Carver, A., Salmon, J., Campbell, K., Baur, L., Garnett, S., & Crawford, D. (2005). How Do Perceptions of Local Neighborhood Relate to Adolescents' Walking and Cycling? *The Science of Health Promotion*. 20(2): 139-147.

Carver, A., Timperio, A., Crawford, D. (2008). Perceptions of neighborhood safety and physical activity among youth: the CLAN study. *Journal of Physical Activity and Health*. 5(3): 430-44.

Catlin, T. K., Simoes, E. J., & Brownson, R. C. (2003). Environmental and policy factors associated with overweight among adults in Missouri. *American Journal of Health Promotion*. 17(4): 249-58.

Cohen, D.A., Ashwood, J.S., Scott, M.M., Overton, A., Evenson, K.R., Staten, L.K., et al. (2006). Public parks and physical activity among adolescent girls. Pediatrics. 118(5):e1381-9.

Cohen, D. A., McKenzie, T. L., Sehgal, A., Williamson, S., Golinelli, D., & Lurie, N. (2007). Contribution of public parks to physical activity. *American Journal of Public Health*. 97(3): 509-14.

Craig, C. L., Brownson, R. C., Cragg, S. E., & Dunn, A.L. (2002). Exploring the effect of the environment on physical activity: A study examining walking to work. *American Journal of Preventive Medicine*. 23(2S): 36-43.

De Bourdeaudhuij, I., Sallis, J. F., & Saelens, B. E (2003). Environmental correlates of physical activity in a sample of Belgian adults. *American Journal of Health Promotion*. 18(1): 83-92.

Doyle, S., Kelly-Schwartz, A., Schlossberg, M., & Stockard, J. (2006). Active Community Environments and health: The relationship of Walkable and Safe Communities to Individual Health. *Journal of the American Planning Association.* 72(1): 19-31.

Duncan, M., & Mummery, K. (2005). Psychosocial and environmental factors associated with physical activity among city dwellers in regional Queensland. *Preventive Medicine*. 40(4): 363-72.

Forsyth, A., Oakes, J. M., Schmitz, K. H., & Hearst M. (2007). Does Residential Density Increase Walking and Other Physical Activity? *Urban Studies*. 44(4): 679-696.

Forsyth, A., Hearst, M., Oakes, J. M., & Schmitz, K. H. (2008). Design and Destinations: Factors Influencing Walking and Total Physical Activity. *Urban Studies*. 45(9): 1973-1996.

Franzini, L., Elliott, M. N., Cuccaro, P., Schuster, M., Gilliland, M. J., Grunbaum, J. A., Franklin, F., & Tortolero, S. R. (2009). Influences of physical and social neighborhood environments on children's physical activity and obesity. *American Journal of Public Health*. 99(2): 271-8.

Giles-Corti, B., & Donovan, R. J. (2003). Relative influences of individual, social environmental, and physical environmental correlates of walking. *American Journal of Public Health*. 93(9):1583-9.

Giles-Corti, B., & Donovan, R. J. (2002). The relative influence of individual, social and physical environment determinants of physical activity. *Social Science and Medicine*. 54(12): 1793-812.

Giles-Corti, B., & Donovan, R. J. (2002). Socioeconomic status differences in recreational physical activity levels and real and perceived access to a supportive physical environment. *Preventive Medicine*. 35(6): 601-11.

Giles-Corti, B., Macintyre, S., Clarkson, J. P., Pikora, T., & Donovan, R. J. (2003). Environmental and lifestyle factors associated with overweight and obesity in Perth, Australia. *American Journal of Health Promotion*. 18(1): 93-102.

Gomez, J. E., Johnson, B. A., Selva, M., & Sallis, J. F. (2004). Violent crime and outdoor physical activity among inner-city youth. *Preventive Medicine*. 39(5): 876-81.

Gordon-Larsen, P., McMurray, R. G., Popkin, B. M. (2000). Determinants of adolescent physical activity and inactivity patterns. *Pediatrics*. 105(6): E83.

Grow, H.M., Saelens, B.E., Kerr, J., Durant, N.H., Norman, G.J., Sallis, J.F. (2008). Where are youth active? Roles of proximity, active transport, and built environment. *Medicine and Science in Sports and Exercise*. 40(12):2071-9.

Handy, S.L., Cao, X., Mokhtarian, P.L. (2008). The causal influence of neighborhood design on physical activity within the neighborhood: evidence from Northern California. *American Journal of Health Promotion*. 22(5):350-8.

Handy, S., Cao, X., Mokhtarian, P.L. (2006). Self-Selection in the Relationship between the Built Environment and Walking. *Journal of the American Planning Association*. 72(1):55-74.

Harrison, R. A., Gemmell, I., & Heller, R. F. (2007). The population effect of crime and neighbourhood on physical activity: an analysis of 15,461 adults. *Journal of Epidemiology and Community Health*. 61(1): 34-9.

Heinrich, K.M., Lee, R.E., Regan, G.R., Reese-Smith, J.Y., Howard, H.H., Haddock, C.K., et al. (2008). How Does the Built Environment Relate to BMI and Obesity Prevalence Among Public Housing Residents? *American Journal of Health Promotion*. 22(3):187-192.

Heinrich, K.M., Lee, R.E., Suminski, R.R., Regan, G.R., Reese-Smith, J.Y., Howard, H.H., et al. (2007). Associations between the built environment and physical activity in public housing residents. *International Journal of Behavioral Nutrition and Physical Activity*. 4(56).

Hoehner, C. M., Brennan Ramirez, L. K., Elliott, M. B., Handy, S. L., & Brownson, R. C. (2005). Perceived and objective environmental measures and physical activity among urban adults. *American Journal of Preventive Medicine*. 28(2 Suppl 2): 105-16.

Hooker, S. P., Wilson, D. K., Griffin, S. F., & Ainsworth, B. E. (2005). Perceptions of environmental supports for physical activity in African American and white adults in a rural county in South Carolina. *Preventing Chronic Disease*. 2(4): A11.

Hume, C., Salmon, J., & Ball, K. (2007). Associations of children's perceived neighborhood environments with walking and physical activity. *American Journal of Health Promotion*. 21(3): 201-7.

Humpel, N., Owen, N., Iverson, D., Leslie, E., Bauman, A. (2004). Perceived environment attributes, residential location, and walking for particular purposes. *American Journal of Preventive Medicine*. 2004;26(2):119-25.

Jago, R., Baranowski, T., & Baranowski, J. C. (2006). Observed, GIS, and self-reported environmental features and adolescent physical activity. *American Journal of Health Promotion*. 20(6): 422-8.

Jago, R., Baranowski, T., Zakeri, I., & Harris, M. (2005). Observed environmental features and the physical activity of adolescent males. *American Journal of Preventive Medicine*. 29(2): 98-104.

Kamphuis, C. B., Van Lenthe, F. J., Giskes, K., Huisman, M., Brug, J., & Mackenbach, J. P. (2008). Socioeconomic status, environmental and individual factors, and sports participation. *Medicine and Science in Sports and Exercise*. 40(1): 71-81.

Kerr, J., Rosenberg, D., Sallis, J. F., Saelens, B. E., Frank, L. D., & Conway, T. L. (2006). Active commuting to school: Associations with environment and parental concerns. *Medicine and Science in Sports and Exercise*. 38(4): 787-94.

King, A. C., Castro, C., Wilcox, S., Eyler, A. A., Sallis, J. F., & Brownson, R. C. (2000). Personal and environmental factors associated with physical inactivity among different racial-ethnic groups of U.S. middle-aged and older-aged women. *Health Psychology*. 19(4): 354-64.

King, A. C., Toobert, D., Ahn, D., Resnicow, K., Coday, M., Riebe, D., Garber, C.E., Hurtz, S., Morton, J., & Sallis, J.F. (2006). Perceived Environments as Physical Activity Correlates and Moderators of Intervention in Five Studies. *American Journal of Health Promotion*. 21(1): 24-35.

Kirby, A. M., Levesque, L., Wabano, V., & Robertson-Wilson, J. (2007). Perceived community environment and physical activity involvement in a northern-rural Aboriginal community. *International Journal of Behavioral Nutrition and Physical Activity.* 4: 63.

Kondo, K., Lee, J.S., Kawakubo, K., Kataoka, Y., Asami, Y., Mori, K., Umezaki, M., Yamauchi, T., Takagi, H., Sunagawa, H., Akabayashi, A. (2009). Association between daily physical activity and neighborhood environments. *Environmental Health and Preventative Medicine.* 14: 196-206.

Lee, C., Moudon, A.V. (2006). Correlates of Walking for Transportation or Recreation Purposes. Journal of Physical Activity and Health 3 (Suppl. 1): S77-S98.

Lee, J. S., Kawakubo, K., Kohri, S., Tsujii, H., Mori, K., & Akabayashi, A. (2007). Association between Resident's Perception of the Neighborhood's Environments and Walking Time in Objectively Different Regions. *Environmental Health and Preventative Medicine*. 12.

Li, M., Dibley, M. J., Sibbritt, D., & Yan, H. (2006). Factors associated with adolescents' physical inactivity in Xi'an City, China. *Medicine and Science in Sports and Exercise*. 38(12): 2075-85.

Lumeng, J. C., Appugliese, D., Cabral, H. J., Bradley, R. H., & Zuckerman, B. (2006). Neighborhood safety and overweight status in children. *Archives of Pediatric and Adolescent Medicine.* 160(1): 25-31.

McCormack, G. R., Giles-Corti, B., & Bulsara, M. (2007). Correlates of using neighborhood recreational destinations in physically active respondents. *Journal of Physical Activity and Health*. 4(1): 39-53.

McCormack, G., Giles-Corti, B., & Bulsara, M. (2008). The relationship between destination proximity, destination mix and physical activity behaviors. *Preventive Medicine*. 46: 33-40.

McDonald, N. C. (2008). The effect of objectively measured crime on walking in minority adults. *American Journal of Health Promotion*. 22(6):433-6.

Miles, R. (2008). Neighborhood disorder, perceived safety, and readiness to encourage use of local playgrounds. *American Journal of Preventive Medicine*. 34(4):275-81.

Molnar, B. E., Gortmaker, S. L., Bull, F. C., & Buka, S. L. (2004). Unsafe to play? Neighborhood disorder and lack of safety predict reduced physical activity among urban children and adolescents. *American Journal of Health Promotion*. 18(5):378-86.

Mota, J., Gomes, H., Almeida, M., Ribeiro, J. C., & Santos, M. P. (2007). Leisure time physical activity, screen time, social background, and environmental variables in adolescents. *Pediatric Exercise Science*. 19(3): 279-90.

Mota J, Gomes, H., Almeida, M., Ribeiro, J. C., Carvalho, J., & Santos, M. P. (2007). Active versus passive transportation to school-differences in screen time, socio-economic position and perceived environmental characteristics in adolescent girls. *Annals of Human Biology.* 34(3):273-82.

Motl, R. W., Dishman, R. K., Ward, D. S., Saunders, R. P., Dowda, M., Felton, G., & Pate, R. R. (2005). Perceived physical environment and physical activity across one year among adolescent girls: self-efficacy as a possible mediator? *Journal of Adolescent Health*. 37(5): 403-8.

Oakes, J. M., Forsyth, A., & Schmitz, K. H. (2007). The effects of neighborhood density and street connectivity on walking behavior: the Twin Cities walking study. *Epidemiologic Perspectives and Innovations*. 4: 16.

Prezza, M., Pilloni, S., Morabito, C., Sersante, C., Alparone, F.R., Guiliani, M.V. (2001). The Influence of Psychosocial and Environmental Factors on Children's Independent Mobility and Relationship to Peer Frequentation. *Journal of Community & Applied Social Psychology*. 11: 435-450.

Romero, A. J., Robinson, T. N., Kraemer, H. C., Erickson, S. J., Haydel, K. F., Mendoza, F., & Killen, J. D. (2001). Are perceived neighborhood hazards a barrier to physical activity in children? *Archives of Pediatric and Adolescent Medicine*. 155(10): 1143-8.

Sanderson, B. K., Foushee, H. R., Bittner, V., Cornell, C. E., Stalker, V., Shelton, S., & Pulley, L. (2003). Personal, social, and physical environmental correlates of physical activity in rural African-American women in Alabama. *American Journal of Preventive Medicine*. 25(3 Suppl 1): 30-7.

Santana P, Santos R, Nogueira H. (2009). The link between local environment and obesity: a multilevel analysis in the Lisbon Metropolitan Area, Portugal. *Social Science and Medicine*. 68(4):601-9.

Sharpe, P. A., Granner, M. L., Hutto, B., & Ainsworth, B. E. (2004). Association of environmental factors to meeting physical activity recommendations in two South Carolina counties. *American Journal of Health Promotion*. 18(3):251-7.

Stafford, M., Cummins, S., Ellaway, A., Sacker, A. Wiggins, R. D. & Macintyre, S. (2007). Pathways to obesity: identifying local, modifiable determinants of physical activity and diet. *Social Science and Medicine*. 65(9):1882-97.

Suminski, R. R., Poston, W. S., Petosa, R. L., Stevens, E., & Katzenmoyer, L. M. (2005). Features of the neighborhood environment and walking by U.S. adults. *American Journal of Preventive Medicine*. 28(2):149-55.

Timperio, A., Giles-Corti, B., Crawford, D., Andrianopoulos, N., Ball, K., Salmon, J., et al. (2008). Features of public open spaces and physical activity among children: findings from the CLAN study. *Preventive Medicine*. 47(5):514-8.

Utter, J., Denny, S., Robinson, E. M., Ameratunga, S., & Watson, P. (2006). Perceived access to community facilities, social motivation, and physical activity among New Zealand youth. *Journal of Adolescent Health*. 39(5): 770-3.

Veugelers, P. J., Sithole, F., Zhang, S., & Muhajarine N. (2008). Neighbourhood characteristics in relation to diet, physical activity and overweight of Canadian children. *International Journal of Pediatric Obesity*. 3:152-159.

Voorhees, C. C., & Young, D. R. (2003). Personal, social, and physical environmental correlates of physical activity levels in urban Latinas. *American Journal of Preventive Medicine*. 25(3Si):61-68.

Weir, L. A., Etelson, D., & Brand, D. A. (2006). Parents' perceptions of neighborhood safety and children's physical activity. *Preventive Medicine*. 43(3): 212-7.

Wen, M., Kandula, N. R., & Lauderdale, D. S. (2007). Walking for transportation or leisure: what difference does the neighborhood make? *Journal of General Internal Medicine*. 22(12): 1674-80.

Zenk, S. N., Wilbur, J., Wang, E., McDevitt, J., Oh, A., Block, R., McNeil, S., & Savar, N. (2009). Neighborhood environment and adherence to a walking intervention in African American women. *Health Education and Behavior*. 36(1): 167-81.