

PMID	First Author	Title	Year	Study Type	CVD	RF by CQ	Study Origin	Setting	Search Range	Data Sources	Study Eligibility Criteria	Number of Studies	Main Study Objective	Target Population	Patient Characteristics	Interv. Studies (n)	Interv. Study Characteristics	Interv. Type	Specific Intervention Examined	Intervention Results/Conclusions	OB Studies (n)	OB Study Characteristics	Observational Relationship Assessed	Observational Results/Conclusions	Main Reported Findings by Critical Question	Limitations of Studies Reviewed	Quality of SR
963874	Stone EJ	Effects of physical activity interventions in youth: Review and synthesis	1998	SR	None	Q6 (RF9, RF10, RF11) Q7 (RF9, RF10, RF11) Q8 (RF11) Q11 (RF11) Q13 (RF11)	USA	Mult Settings	1980-1997	MEDLINE Article bibliographies Recommendations from national and international colleagues Participants were preschool through college age US and foreign school or community settings Published in English Studies with both physical activity and physical fitness measures Exclusions: Studies with only fitness assessments Pilot studies Review articles	29 Completed studies: 17 Studies in progress: 9	Determine characteristics and effects of physical activity interventions in school and community settings among preschool through college-aged persons	Pediatric/ Young Adults	NR	29	Sample size range for school-based studies: 200-5,000	Behavioral	Physical activity School-based and community-based Multi-component and single factor interventions with physical activity components	The strongest evidence base for school-based physical activity interventions is with students in the upper elementary grades and school environmental changes Improvements in knowledge and attitudes related to physical activity were generally found in the school-based studies that measured these areas Few positive findings were reported on measures assessing out-of-school physical activity For the completed community-based studies there were limited significant results The findings showed that physical activity behaviors track over adolescent yr and that health enhancing or health-compromising behaviors tend to cluster for physical activity, dietary choices, and smoking behaviors The longest follow-ups were 12, 7, and 3 yr, respectively, for the Oslo Youth Study, Class of 89, and CATCH. All showed declining effects but still reported significant increases in physical activity versus the control students	N/A	N/A	N/A	N/A	Q6: Health enhancing or health-compromising behaviors cluster for physical activity, dietary choices, and smoking behaviors Q7: Health enhancing or health-compromising behaviors tend to cluster for physical activity, dietary choices, and smoking behaviors Q8: The findings showed that physical activity behaviors track over adolescent yr Q11: The longest follow-ups were 12, 7 and 3 yr, respectively, for the Oslo Youth Study, Class of 89, and CATCH. All showed declining effects but still reported significant increases in physical activity versus the control students Q13: Few positive findings were reported on measures assessing out-of-school physical activity For the completed community-based studies there were limited significant results The strongest evidence base for school-based physical activity interventions is with students in the upper elementary grades and school environmental changes	Studies reviewed addressed multiple behaviors Various studies used different instruments for physical activity assessment Adoption of adult models or variables for use in children		
1469297	Reilly JJ	Physical activity interventions in the prevention and treatment of pediatric obesity: systematic review and critical appraisal	2003	SR	None	Q10 (RF8) Q13 (RF8)	UK	Dort KnowNR	Jan 2000- May 2002	MEDLINE EMBASE CINAHL Healthstar Cochrane Library The Internet Article reference lists Content pages from 39 relevant journals	7 Targeted activity or inactivity Followed children or adolescents for at least 12 mo Studies on prevention had to include non-clinical groups of subjects (recruited from nursery, school, or community) Studies on obesity treatment had to have defined children as obese using objective criteria Studies included objective measures of body weight, BMI, or body composition Also examined relevant SRs and MAs	7 Update a previous SR and critically appraise evidence in light of the recent rapid expansion of research in physical activity interventions in the prevention and treatment of pediatric obesity	Pediatric/ Young Adults	NR	7 RCT: 4 SR: 2 MA: 1	Obesity prevention studies: 4 Obesity treatment studies: 3	Behavioral	Interventions that target activity or inactivity to prevent obesity (e.g., education, modifying attitudes and behaviors) Interventions that target activity or inactivity to treat obesity (e.g., targeted reductions in sedentary behavior, targeted increases in aerobic activity)	Evidence on childhood obesity prevention is not encouraging, although promising targets for prevention are now clear, notably reduction in sedentary behavior Stronger evidence that targeting activity and/or inactivity may be effective in pediatric obesity treatment, but the clinical relevance and generalizability of the interventions is unclear	N/A	N/A	N/A	N/A	Q10: There is stronger evidence that targeting activity and/or inactivity might be effective in pediatric obesity treatment, but doubts as to the generalizability of existing interventions, and the clinical relevance of the interventions is unclear Q13: The evidence on childhood obesity prevention is not encouraging, although promising targets for prevention are now clear, notably reduction in sedentary behavior	Of those studies that were eligible for inclusion, most were prone to bias as a result of limitations in their design, conduct and/or reporting Most of the published interventions of high quality are from the USA, and most of these (at least for obesity treatment) are from the same research group		
1520797	Jago R	Non-curricular approaches for increasing physical activity in youth: a review	2004	SR	None	Q13 (RF11)	USA	Community (schools)	1970-2002	PubMed MEDLINE Manual searches Articles in press	9 English language Participants between 5-18 yr Studies in which physical activity was recorded before and after the intervention Studies with either objective or self-report assessments of physical activity Studies evaluating the effect of a non-curricular physical activity Exclusions: Case reports Unpublished reports Dissertations	9 Identify research that evaluated the effectiveness of non-curricular interventions on the physical activity of children and adolescents	Pediatric/ Young Adults	NR	9	NR	Behavioral	Non-curricular approaches to increasing physical activity among children and adolescents (i.e., painting school playgrounds, introduction of gaming equipment and training pupils in PA during lunch period, active travel to school, after school activities, summer day camps)	Three intervention studies that focused exclusively on school break periods demonstrated that physical activity during these periods can be increased by 17-60% from simple low-cost interventions The only study that tried to change children's school travel patterns was unsuccessful. Active travel to school offered potential, but its effectiveness was impaired by traffic congestion, poor public planning for pedestrians and cyclists, and parental fear for child safety 2/2 studies on after school activity failed to increase physical activity, but 1 key finding was that the participants were not sufficiently exposed to the intervention to affect their physical activity behavior Summer day camps can be used to increase youth activity	N/A	N/A	N/A	N/A	Q13: Physical activity can be increased during school break periods, through existing youth organizations, summer day camps, and possibly through active transportation	NR		
1556169	Clemmens D	Increasing activity to reduce obesity in adolescent girls: a research review	2004	SR	None	Q13 (RF11)	USA	Mult Settings	May 1980- Nov 2003	MEDLINE CINAHL PsycLIT EMBASE Science Citation Index Cochrane Controlled Trials Register	7 Study samples with girls 12-19 yr and/or in middle school or high school Interventions that started within the adolescent time period (from middle school up to and including the final yr of secondary school) Interventions that targeted an increase in physical activity Studies conducted in the US or Canada	7 Provide a systematic review of physical activity intervention research conducted with adolescent girls in the US and Canada during the past 2 decades	Pediatric/ Young Adults	NR	7 RCT: 5 Quasi-experimental: 2	Behavioral	Physical activity interventions (e.g., community-based programs, school-based programs)	Although the results were not consistent across studies, they suggested that school-based, multicomponent interventions that were also designed to decrease sedentary behavior were effective in increasing physical activity in adolescent girls 2 studies with significant results involved peer-led interventions, suggesting that peer involvement was an important strategy to consider in designing programs for adolescent girls	N/A	N/A	N/A	N/A	Q13: Although the results were not consistent across studies, they suggest that school-based, multicomponent interventions that were also designed to decrease sedentary behavior were effective in increasing physical activity in adolescent girls	NR			
1597308	Strong WB	Evidence based physical activity for school-age youth	2005	SR	CVD Unspecified	Q6 (RF4, RF5, RF8, RF11, RF14) Q10 (RF4, RF8) Q12a (RF7, RF11) Q13 (RF4, RF5, RF8)	USA	Community (schools)	1990-present	PubMed ERIC PsycINFO	NR English language Related to physical activity Specific outcomes in youth	NR Review the effects of physical activity on health and behavior outcomes and develop evidence-based recommendations for physical activity in youth Evidence is adequate to make informed judgments about the beneficial effects of physical activity on lipid and lipoprotein levels and adiposity in normal weight children and adolescents, and BP in nonmetabolic youth No definition for metabolic syndrome in youth has been established; however, the association between the metabolic syndrome and adiposity, lipid and lipoprotein levels, and BP suggests that regulation of overweight through physical activity may have a beneficial effect on components of the syndrome Studies of physical activity in relation to hemostasis, inflammation (hs-CRP), and endothelial function are inconclusive	Pediatric/ Young Adults	NR	NR	Behavioral	Physical activity interventions	Evidence-based data are strong for beneficial effects of physical activity on several components of cardiovascular health, adiposity in overweight youth, and BP in mildly hypertensive adolescents Evidence is adequate to make informed judgments about the beneficial effects of physical activity on lipid and lipoprotein levels and adiposity in normal weight children and adolescents, and BP in nonmetabolic youth No definition for metabolic syndrome in youth has been established; however, the association between the metabolic syndrome and adiposity, lipid and lipoprotein levels, and BP suggests that regulation of overweight through physical activity may have a beneficial effect on components of the syndrome Studies of physical activity in relation to hemostasis, inflammation (hs-CRP), and endothelial function are inconclusive	N/A	N/A	N/A	N/A	Q6: No definition for metabolic syndrome in youth has been established; however, the association between the metabolic syndrome and adiposity, lipid and lipoprotein levels, and BP suggests that regulation of overweight through physical activity may have a beneficial effect on components of the syndrome Q10: Evidence-based data are strong for beneficial effects of physical activity on several components of cardiovascular health, adiposity in overweight youth, and blood pressure in mildly hypertensive adolescents Q12a: Studies of physical activity in relation to hemostasis, inflammation (hs-CRP), and endothelial function are inconclusive Q13: Evidence is adequate to make informed judgments about the beneficial effects of physical activity on lipid and lipoprotein levels and adiposity in normal weight children and adolescents, and blood pressure in nonmetabolic youth	NR			
17300279	Ferreira I	Environmental correlates of physical activity in youth - a review and update	2007	SR	None	Q5 (RF11) Q10.13 (RF11)	The Netherlands	Mult Settings	Jan 1980- Dec 2004	Medline PsycInfo Web of Science EMBASE SportDiscus	150 CR or longitudinal studies in human subjects 3-18 yr Study samples drawn from countries with established market economies (as defined by the World Bank) Published in English as papers in international peer-reviewed journals Manual search using the reference from the previous SR by Sallis et al., primary studies identified by the previous source, and authors' personal databases Examined at least 1 environmental variable (independent variable) that was tested for its association with a measure of physical activity (dependent variable), obtained at the individual level	150 Update a review of evidence conducted by Sallis et al. focusing specifically on, and characterizing into more detail, the environmental correlates of physical activity in children and adolescents	Pediatric/ Young Adults	NR	N/A	N/A	N/A	N/A	150 studies on 225 independent samples Studies in children: 66 (91 independent samples) Studies in adolescents: 84 (134 independent samples) Home physical environment variables (i.e., number of cars in family, availability and access of exercise equipment) and socio-cultural environmental variables (e.g., family structure variables) School environment variables Neighborhood environmental variables (e.g., accessibility of physical activity programs or facilities, neighborhood safety and hazards, aspects of social and economic environments) City/municipality and region/country variables (e.g., urban vs. suburban)	Variables of the home and school environments were especially associated with children's physical activity. Most consistent positive correlates of physical activity were father's physical activity, time spent outdoors and school physical activity-related policies (in children), and support from significant others, mother's education level, family income, and non-vocational school attendance (in adolescents) The present review did not identify any feature of the neighborhood environment associated with higher physical activity Only a few studies have investigated differences in physical activity levels according to residence location. The relationship between residence in urban or rural regions and children's activity levels was undetermined by the available studies. Residence in urban or rural regions was not associated with adolescents' physical activity	N/A	N/A	N/A	N/A	Q5: In adolescents, mother's education levels, family income, attendance of a non-vocational school and low neighborhood crime incidence emerged as potential determinants of physical activity. The relationship between residence in urban or rural regions and children's activity levels was undetermined by the available studies. Residence in urban or rural regions was not associated with adolescents' physical activity Q10.13: Most consistent positive correlates of physical activity were father's physical activity, time spent outdoors and school physical activity-related policies (in children), and support from significant others, mother's education level, family income, and non-vocational school attendance (in adolescents) The present review did not identify any feature of the neighborhood environment to be associated with children's activity levels. In adolescents, low crime incidence was a characteristic of the neighborhood environment associated with higher physical activity	Majority of the research reviewed on the potential determinants of physical activity relied on parental or child/adolescent self-reports, which included diaries and recall instruments; these methods may pose serious limitations because they provide less accurate estimates of physical activity levels than those obtained by more objective methods Studies incorporated in the review had mostly cross-sectional designs and therefore their findings were limited in that only association could be established and not prediction or causation Most studies measured outcomes across several settings, which prevented this review from determining the specific environmental correlates of specific physical activities Although most of the data included in the review have an intrinsic multilevel structure, they were most frequently analyzed as obtained in simple random samples of a single population. As such, the potential interdependence within clusters (e.g., classes within schools) has been ignored, which may have led to inflated estimation of the associations	Good
17556765	Salmon J	Promoting physical activity participation among children and adolescents	2007	SR	None	Q10.13 (RF11)	Australia	Mult Settings	January 1989- Jun 2006	Medline and PreMedline SportsDiscus PsycINFO PsycARTICLES Cochrane CINAHL ScienceDirect Web of Knowledge Social SciSearch All Ovid databases	90 Children aged 4-12 yr or adolescents aged 13-19 yr Reported physical activity outcomes Sample size of more than 16 A randomized controlled trial, group randomized trial, or quasi-experimental study design Inclusion of post intervention, assessment-only designs or no control condition was decided on a case-by-case basis Exclusions: Studies that reported only fitness outcomes Overweight or obesity treatment studies or studies of clinical populations	90 Provide a narrative review of the evidence of the effectiveness of interventions to increase physical activity among children aged 4-12 yr and among adolescents aged 13-19 yr	Parental/ Family/ Caregiver	Age: 4-19 yr	90	Intervention delivered in: School setting: 97 Family setting: 9 Primary care setting: 6 Community-based setting: 3 Intervention delivered via Internet: 1 Interventions conducted in US: 56 Inclusion of rural populations: 11 Inclusion of children and/or families from low-mid SES areas: 21 Inclusion of targeted ethnic minority groups: 26	Behavioral	School-based interventions Family-based interventions Primary care interventions Community-based interventions Internet-based interventions	Interventions in the school setting that included some focus on physical education, that involved activity breaks, or that included family strategies appeared to be most effective among children Interventions in primary care settings and tailored advice/brief counseling appeared to be most effective among adolescents; however, evidence for long-term effects is weak Interventions delivered in the family setting resulted in weak positive trends; however, many of the studies were pilot studies not adequately powered to detect group differences, and only 1 of the studies targeted physical activity in adolescents Few studies examined Internet-based interventions, and only 1 study found that print-based promotion of physical activity resulted in more positive outcomes than Internet-based delivery; other Internet-based interventions showed no effects	N/A	N/A	N/A	N/A	Q13: Interventions in the school setting that included some focus on physical education, that involved activity breaks, or that included family strategies resulted in some positive effect on children's physical activity. Motivationally tailored strategies and program delivery in primary care settings resulted in increases in physical activity	No baseline data Poor study design (e.g., no control group, no baseline data) Atheoretical, physical activity measures of unknown reliability and validity Poor reporting of study details (e.g., sample size, response rates, attrition/retention, compliance, year of intervention, duration of intervention) Lack of follow-up data on interventions Lack of reporting of mediators of short-term and long-term behavior change	Fair - narrative review only	