**Appendix E. Evidence Tables**

**Key Question 1. School-based only**

**Evidence Table 1. Study characteristics for studies taking place in a school only setting.**

| **Author, year**  **Location** | **Years of Recruitment** | **Study Design** | **Inclusion Criteria** | **Goal of study is obesity prevention/ weight maintenance** | **Comments** |
| --- | --- | --- | --- | --- | --- |
| Amaro, 20061  Italy | NR | Randomized intervention | NR | No/Not reported |  |
| Barbeau, 20072  US | NR | Randomized intervention | Girls only  Age: >8 - <12  Grade: 3-5  Black, non-Hispanic  Weight <300 lbs.  Not taking any medications known to affect body composition or fat distribution. Able to participate in regular physical activity (PA). | No/Not reported | Subjects were recruited from 8 local elementary schools using fliers. |
| Bronikowski, 20113  Poland | NR | Randomized intervention | No inclusion/exclusion criteria were explicitly described. However, when describing the pre- and post-testing procedure the study indicates that pre-testing was done at the beginning of the year (when students were aged 13) and post-testing was done 3 semesters later (when students were 14.5 years) (p. 707). | No/Not reported |  |
| Bruss, 20104  Commonwealth of the Northern Mariana Islands (CNMI), a US Commonwealth in the western Pacific | 2006-2007 | Randomized intervention | Grade: 3 | Yes | The study population consisted of 3rd grade children and their caregivers attending all 12 public schools in the Commonwealth of the Northern Mariana Islands (CNMI). |
| Burguera, 20115  Spain | NR | Non-randomized Intervention | Grade: 7-9th  Students could not be members of any federated sport team or organized after-school sport activities.  They had to agree to have two blood samples drawn (before and after the intervention) and plan to complete the school year in the same high school. | Yes | The grades involved in the study were 1st, 2nd and 3rd grade of ESO (Obligatory Secondary School of Spain) which correspond to 7th, 8th, 9th grade in the USA. |
| Bush, 19896  US | 1983 | Randomized intervention | Grade: 4-6  The study is being conducted in Washington, DC, where students who were attending grades 4-6 at nine public elementary schools in 1983 were eligible to participate. | No/Not reported | The schools were ranked according to the percentage of students eligible for Title I (federal school lunch program), and the rank order was divided into tertiles. Three schools were then randomly selected from each of these socioeconomic levels and randomly assigned either to the control condition or to one of two intervention conditions. |
| Chiodera, 20087  Italy | NR | Single arm pre-test/post-test design | BMI: < 30  Absence of major pathologies  No prolonged pharmacological therapy during the study period.  No involvement in a structured physical activity program outside the school. | No/Not reported | Children aged 6–10 years, from 24 primary schools located in the metropolitan area of Parma, Italy were included. |
| Coleman, 20118  US | NR | Randomized intervention | Grade: 2,3 and 6  Parental consent | No/Not reported | The total follow-up is over 3 years, but there is an entire year of baseline before the groups are randomized to intervention or control groups.  School-wide study |
| Damon, 20059  Austria | NR | Non-randomized intervention | NR | Yes |  |
| DeBar, 201110 | 2006 | Randomized intervention | Grade: 6  No conditions that would hinder active participation in PE class. | No/Not reported | Major inclusion criteria for schools were at least 50% of children eligible for federally subsidized, free, or reduced priced meals and/or at least 50% of students whose ethnicity was Black or Hispanic. |
| Donnelly, 200911  US | NR | Randomized intervention | Grade: 2-3  Schools were the unit of randomization. Students in the respective grades (2 & 3 at baseline and 4& 5 at the end of the study) in the schools randomized to PAAC participated in PAAC since it was adopted as a curriculum | Yes |  |
| Foster, 201012  Hirst, 200913  U.S. | NR | Randomized intervention | at least 50% minority (African American, Hispanic/Latino and/or American Indian) and/or greater than 50% eligible for free or reduced lunch.  50% of children in the school needed to be eligible for federally subsidized lunches; 50% of the students had to be black or Hisapnic | Yes |  |
| Fung, 201214  Canada | NR | Natural experiment | Grade: 5  Intervention group: attend APPLE school.  Control group: students from 1/150 randomly selected non-APPLE schools from Alberta. | Yes |  |
| Gortmaker, 199915  US | 1995 | Randomized intervention | NR | Yes | Ten schools from four communities in the Boston, MA metropolitan area were recruited to participate in the study based on their willingness to implement the classroom and physical education interdisciplinary curriculum, a multiethnic student population, and cooperation with random assignment of schools to the intervention or control condition.  The participating children were in 6th and 7th grade. |
| Graf, 200816  Germany | NR | Randomized intervention | Grade: primary school | Yes | Also of relevance: 15 children were excluded because they took part in other programs for overweight and obese primary school children. |
| Gutin, 200817  US | 2003 | Randomized intervention | Grade: 3 | Yes | For intended follow-ups, the baseline and follow-up were 2 complete years and 1 school year apart. One school year is approximately 8 months, and therefore 32 month follow-up (12\*2+8) is approx. 138 weeks. |
| Haerens, 200618  Belgium | NR | Randomized intervention |  | No/Not reported | A random sample of 15 schools of the 65 schools with technical and vocational education in West-Flanders (Belgium) was selected to participate in this study. |
| Heelan, 200919  US | NR | Non-randomized intervention | NR | No/Not reported |  |
| Howe, 201120  US | NR | Randomized intervention | Boys only  Age: 8-12 years old  Grades: 3-5  Black, non-Hispanic  (1) weigh <300 lbs. (equipment limitation).  (2) not taking any medications known to affect metabolism, body composition, or fat distribution (e.g., Ritalin or,Concerta).  (3) Have no known CV, metabolic, or respiratory disease or physical impairment that would limit their participation in regular PA. | Yes | Only 1 sibling per family was included in the analysis. |
| James, 200421  England (UK) | NR | Randomized intervention | Age: >7 - <11  Parents consented and had to return parental consent forms | Yes |  |
| James, 200722  England (UK) | 2001-2001 | Randomized intervention | Age: >7 - <11  Grade: junior high school. | Yes | The original follow-up period for the original study was 12 months. Two years after completion of the intervention one of the authors took additional longitudinal measurements. |
| Kafatos, 200523  Greece | 1992-1992 | Randomized intervention | Grade: 1  The population of the intervention group was comprised by the total number of children registered in the first grade in two counties of the island of Crete while those registered in a third county served as the control group. | No/Not reported | The study states, "The current study examines the long-term effects of a school-based 'Health and Nutrition Education program' on body mass index (BMI) changes and the prevalence of overweight.  It is not clear to me whether this is a randomized intervention. The methods state, 'For evaluation purposes, a random sample of 24 schools (602 pupils and their parents) in the intervention counties and 16 schools (444 pupils and their parents) in the control county were selected for comparative purposes. |
| Kain, 200924  Chile | 2003-2005 | Non-randomized intervention | Grade: 1st to 8th  Limited entry to children starting at 7th grade. | Yes | There were 3 intervention schools representing the totality of the primary school population (1st to 8th grade) enrolled in public education in Casablanca, but only 1 control school in Quillota. |
| Klish, 201225 |  | Randomized intervention |  |  |  |
| Lazaar, 200726  France | NR | Randomized intervention | Grade: 1,2  Eligible children must meet the following: elementary schools (first and second grades of elementary school), participating in the scheduled school physical education (SPE) classes, participating in less than 3 h of extra school sports activity per week, free of any known disease and not participating in other studies. | No/Not reported |  |
| Llargues, 201227  Spain | 2008 | Randomized intervention | Age: 5-6 years old,  Grade: First year school children  Children born in 2000 attending public schools and state assisted schools in Granoller. School children who do not need a special diet (for metabolic or digestive disorder), without physical activity incapacity, with family acceptance or attendance to school. | Yes | Major inclusion criteria being children born in 2000 and attending schools in Granoller |
| Lubans, 201228  Australia | NR | Randomized intervention | Boys only  Grade: 9  English | Yes |  |
| Lubans, 201229  Australia | NR | Randomized intervention | Girls only  Grade: 8th grade  Schools from which girls were recruited were considered eligible for study inclusion if the Socio-Economic Index for Areas score was 5 or less (bottom 50%) - this intervention targeted girls living in low income communities. | Yes |  |
| Madsen, 19 9330  US | NR | Randomized intervention | Grade: 5th-6th  Individuals with no indication of high blood pressure, pre-existing cardiovascular disease, or high total cholesterol were also included. | No/Not reported | Census track data were used to identify schools (to recruit from) with large numbers of Mexican-American or Anglo-American families of lower socioeconomic status. |
| Magnusson, 201231  Iceland | Fall 2006 | Randomized intervention | Age: born in 1999 | Yes |  |
| Manios, 19 9932  Greece | NR | Non-randomized intervention | Grade: 1st  Participants in the intervention group are students from two counties in Crete (Heraklio and Rethimno) while the students in the control group are from Hania. | No/Not reported | This article is one of the multiple articles from the Creten health education program study(refid 31552, 13261, 13152, 43363 and 8531). |
| Manios, 200233  Greece | 1992-1992 | Non-randomized intervention | Grade: 1st  Participants in the intervention group are students from two counties in Crete (Iraklio and Rethimno) while the students in the control group are from Hania. | No/Not reported |  |
| Manios, 200634  Greece | 1992 from refid 43363 | Non-randomized intervention | NR | No/Not reported | The population of the intervention group (IG) comprised of children registered in the first grade of primary schools. |
| Muckelbauer, 200935  Germany | NR | Randomized intervention | Schools were eligible for participation if they were located in deprived areas, as defined with the following criteria: unemployment rate of >=15%, proportion of social welfare recipients of >=5%,and proportion of non-German residents of >=5%, as indicated by the local public authorities. Schools must also meet technical requirements for the installation of the water fountain and agree to participate in the study. | Yes | This is a randomized, controlled cluster trial with 1 intervention arm and 1 control arm which considered schools as cluster units of intervention. |
| Neumark-Sztainer, 201036  US | NR | Randomized intervention | Girls only  Not engaged in high levels of physical activity. No eating disorder. | Yes |  |
| Newton, 201037  US | NR | Non-randomized intervention | NR | Yes | This particular study was a pilot study of the randomized controlled trial, entitled Wise Mind |
| Reed, 200838  Canada | 2003-2003 | Randomized intervention | Grade: 4-5  No health condition that could affect normal physical activity or development. | No/Not reported |  |
| Rosario, 201239  Portugal | 2007-2008 | Randomized intervention | Public elementary schools,  Parents provided informed consent. | Yes | Seven out of 80 public elementary schools randomly selected and invited to take part in study. Three schools were randomized to intervention and four to control group. |
| Rush, E, 201240  New Zealand | 2004-NR | Randomized intervention | Age: 5-10 years old | Yes |  |
| Sahota, 200141  UK | NR | Randomized intervention | NR | Yes |  |
| Sallis, 199342  US | 1990 | Other: At first randomized, but a third school was added to the control | Grade: 4 | Yes | Within strata, six schools were randomly assigned to the three experimental conditions. A third school was added to the control condition, because controls were felt to have the least incentive for staying in the study. |
| Salmon, 200843  Australia | NR | Randomized intervention | Grade: 5  Children attending schools in low SES areas were selected. | Yes |  |
| Skybo, 200244  US | 1999 | Quasi-experimental | Grade: 3  Language: English:  Participants had parental consent; the student had at least one parent who was involved in the study; student assented to participate. | No/Not reported |  |
| Smolak, 200145  US | NR | Non-randomized intervention | Boys and girls ages 9–11 | No/Not reported |  |
| Sollerhed, 200846  Sweden | 2000-2000 | Non-randomized intervention | NR | Yes |  |
| Stenevi-Lundgren, 200947  Sweden | 1999-1999 | Non-randomized intervention | Girls only  Grade: 1 and 2  All participants were healthy Caucasian girls not taking any medication known to influence bone or muscle metabolism, although I don't think this was an inclusion criteria, per se. | No/Not reported |  |
| Stock, 200748  Canada | NR | Non-randomized intervention | Selection of the 2 schools {elementary} was based on expressed interest and school district superintendent support. The intervention school was selected because it had an even number of classes, which made buddy pairing more efficient for this pilot study. | Yes | Kindergarten-3rd grade and 4th-7th grades had different roles in the intervention depending on the student's grade level - that is, the older children were mentors (healthy buddies) to the younger children |
| Taylor, 200749  New Zealand | 2003-2005 | Non-randomized intervention | NR | Yes | Children aged 5 to 12 years attending primary schools. |
| Thivel, 201150  France | 2003-2003 | Randomized intervention | Age: >6 - <10  (1) being in the first or second grades, (2) taking part in the standard physical education classes offered by the school, (3) not participating in more than 3 h of extracurricular sports activity per week, (4) being free of any known disease, and (5) not being involved in any other study. | No/Not reported | Participating children were considered obese if their BMI reached the 97th percentile according to the national reference curves developed by Roland-Cachera et al. (1991) [33]. The interventional group included 60 obese children compared to 41 obese children in the control group |
| Treveno,  200551  US | 1998-1999 | Randomized intervention | Grade: 4th grade  Participants had to be enrolled in elementary schools in low-income inner-city neighborhoods. | No/Not reported | The schools selected were in the same geographic region of the city and were the feeder schools to three middle schools and one high school. Schools chosen were majority Mexican American (97%) and qualified for food assistance programs in the elementary schools (95%). |
| Tucker, 201152  US | NR | Quasi-experimental | Children of varying heights and weights were recruited from two elementary schools Elton Hills Elementary School (EHS)and Harriet Bishop Elementary School (HBS). | No/Not reported |  |
| Valdimarsson, 200653  Sweden | NR | Non-randomized intervention | Girls only  Grade: 1 and 2 | No/Not reported | Controls were selected from three neighboring schools were intervention participants were selected from one school. |
| Vandongen, 19 9554  Australia | 1990-1990 | Randomized intervention | Grade: Year 6 | No/Not reported | 30 total schools were enrolled into the study. Each school was assigned to 1 of 5 SES strata. The six schools within each stratum were then allocated into six arms. |
| Viskic-Stalec, 200755  Croatia | NR | Non-randomized intervention | Girls only  Age: >16 - <18  Grade: 3-4  Healthy children. | No/Not reported |  |
| Vizcaino,  200856  Spain | NR | Randomized intervention | NR | Yes | Participating children were free of serious learning difficulties or physical or mental disorders that could impede participation in scheduled physical activities. |
| Walter, 19 8557  US | NR | Randomized intervention | Grade: 4  Students in all 22 elementary schools in a single district. | No/Not reported | 1 year follow up results have been presented of a 5 year long study. |
| Walther, 200958  Germany | NR | Randomized intervention | Grade: 6  Study selection was based on the willingness of parents to allow their children to participate in the study protocol for at least 1 year | No/Not reported |  |
| Warren, 200359  UK | 2000 | Randomized intervention | Age: > 5years < 7years  Grade: Primary school year 1-2  The primary schools were selected on the basis of previous links to the Nutrition and Food Science Department at Oxford Brookes University and their close proximity to the University. | Yes |  |

APPLE = Alberta Project Promoting active Living and healthy Eating; BMI = Body Mass Index; CNMI = Commonwealth of the Northern Mariana Islands; EHS = Elton Hills Elementary School; ESO = Obligatory secondary School of Spain; HBS = Harriet Bishop Elementary School; IG = Intervention group; NR = Not reported; PA = Physical Activity; PAAC = Physical Activity Across the Curriculum; SES = Socioeconomic status; SPE = School Physical Education; UK = United Kingdom