

Appendix 1. Search strategy

| Physical activity | Academic/Cognitive performance | Study design | Study population | Database searched |
|--|--|--|---|---|
| ("Motor Activity"[Mesh:NoExp] OR "Exercise"[Mesh] OR "Locomotion"[Mesh] OR "Sports"[Mesh] OR "Exercise Movement Techniques"[Mesh] OR "Physical Education and Training"[Mesh] OR "Play and Playthings"[Mesh] OR "Accelerometry"[Mesh] OR running[tiab] OR walking[tiab] OR physical fitness*[tiab] OR exercis*[tiab] OR physical educati*[tiab] OR gymnastic*[tiab] OR physical activit*[tiab] OR motor activit*[tiab] OR movement program*[tiab] OR pedometer*[tiab] OR acceleromet*[tiab] OR sport[tiab] OR sports[tiab] OR yoga[tiab] OR locomot*[tiab] OR play[tiab] OR game[tiab] OR games[tiab] | "Literacy"[Mesh] OR "Cognition"[Mesh:NoExp] OR "Executive Function"[Mesh] OR "Learning"[Mesh] OR "Thinking"[Mesh] OR "Neuropsychological Tests"[Mesh] OR "Intelligence Tests"[Mesh] OR "Attention"[Mesh] OR "Reading"[Mesh] OR academic performance*[tiab] OR cogniti*[tiab] OR executive function*[tiab] OR academic achievement*[tiab] OR stroop*[tiab] OR trail*[tiab] OR wechsler*[tiab] OR wics[tiab] OR wms[tiab] OR stanford binet*[tiab] OR intelligence test*[tiab] OR achievement test*[tiab] OR flanker*[tiab] OR CAT 3[tiab] OR SAT[tiab] OR GPA[tiab] OR executive control*[tiab] OR inhibition*[tiab] OR antisaccade*[tiab] OR anti saccade*[tiab] OR learning*[tiab] OR academic skill*[tiab] OR attention[tiab] OR concentration[tiab] OR reading[tiab] OR picture naming*[tiab] OR on task behavi*[tiab] OR literate[tiab] OR | ((((((("Clinical Study" [Publication Type]) OR "Clinical Studies as Topic"[Mesh]) OR "Epidemiologic Studies"[Mesh:NoExp]) OR "Case-Control Studies"[Mesh]) OR "Cohort Studies"[Mesh]) OR "Controlled Before-After Studies"[Mesh]) OR "Interrupted Time Series Analysis"[Mesh] OR (randomized controlled trial[pt] OR controlled clinical trial[pt] OR randomized controlled trials[mh] OR random allocation[mh] OR double-blind method[mh] OR single-blind method[mh] OR clinical trial[pt] OR clinical trials[mh] OR "clinical trial"[tw] OR ((singl*[tw] OR doubl*[tw] OR trebl*[tw] OR tripl*[tw]) AND (mask*[tw] OR blind*[tw]))) OR "latin square"[tw] OR placebos[mh] OR placebo*[tw] OR random*[tw] OR research design[mh:noexp] OR comparative study[pt] OR evaluation studies[pt] OR follow-up studies[mh] OR prospective | infan*[tw] OR child*[tw] OR adolescen*[tw] OR pediatric*[tw] OR paediatric*[tw] OR pube*[tw] OR juvenil*[tw] OR school*[tw] OR newborn*[tiab] OR new-born*[tiab] OR neo-nat*[tiab] OR neonat*[tiab] OR premature*[tiab] OR postmature*[tiab] OR pre-mature*[tiab] OR post-mature*[tiab] OR preterm*[tiab] OR pre-term*[tiab] OR baby[tiab] OR babies[tiab] OR toddler*[tiab] OR youngster*[tiab] OR preschool*[tiab] OR kindergart*[tiab] OR kid[tiab] OR kids[tiab] OR playgroup*[tiab] OR play-group*[tiab] | PubMed, PsycINFO, Cochrane Central, Web of Science, ERIC, and SPORTDiscus |

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|---|--|--|--|-------------------|
| <p>"Motor Activity"[Majr:NoExp] OR "Exercise"[Majr] OR "Locomotion"[Majr] OR "Sports"[Majr] OR "Exercise Movement Techniques"[Majr] OR "Physical Education and Training"[Majr] OR "Play and Playthings"[Majr] OR "Accelerometry"[Majr] OR running[ti] OR walking[ti] OR physical fitness*[ti] OR exercis*[ti] OR physical educati*[ti] OR gymnastic*[ti] OR physical activit*[ti] OR motor activit*[ti] OR movement program*[ti] OR pedometer*[ti] OR acceleromet*[ti] OR sport[ti] OR sports[ti] OR yoga[ti] OR locomot*[ti] OR play[ti] OR game[ti] OR games[ti]</p> <p><i>"Motor Skills"[Mesh]</i></p> | <p>literac*[tiab] OR memor*[tiab] OR attention*[tiab] OR thinking[tiab] OR creativ*[tiab] OR problem solving*[tiab]</p> <p>"Literacy"[Majr] OR "Cognition"[Majr:NoExp] OR "Executive Function"[Majr] OR "Learning"[Majr] OR "Thinking"[Majr] OR "Neuropsychological Tests"[Majr] OR "Intelligence Tests"[Majr] OR "Attention"[Majr] OR "Reading"[Majr] OR academic performance*[ti] OR cogniti*[ti] OR executive function*[ti] OR academic achievement*[ti] OR stroop*[ti] OR trail*[ti] OR wechsler*[ti] OR wics[ti] OR wms[ti] OR stanford binet*[ti] OR intelligence test*[ti] OR achievement test*[ti] OR flanker*[ti] OR CAT 3[ti] OR SAT[ti] OR GPA[ti] OR executive control*[ti] OR inhibition*[ti] OR antisaccade*[ti] OR anti saccade*[ti] OR learning*[ti] OR academic skill*[ti] OR attention[ti] OR concentration[ti] OR reading[ti] OR picture naming*[ti] OR on task behavi*[ti] OR literate[ti] OR literac*[ti] OR memor*[ti] OR attention*[ti] OR thinking[ti] OR creativ*[ti] OR problem solving*[ti]</p> | <p>studies[mh] OR cross-over studies[mh] OR control[tw] OR controll*[tw] OR prospectiv*[tw] OR volunteer*[tw]) NOT (animals[mh] NOT humans[mh]) OR "Epidemiologic Studies"[Mesh] OR cohort[tiab] OR (case[tiab] AND (control[tiab] OR controll*[tiab] OR comparison[tiab] OR referent[tiab])) OR risk[tiab] OR causation[tiab] OR causal[tiab] OR "odds ratio"[tiab] OR etiol*[tiab] OR aetiol*[tiab] OR "natural history"[tiab] OR predict*[tiab] OR prognos*[tiab] OR outcome[tiab] OR course[tiab] OR retrospect*[tiab] OR clinical stud*[tiab]</p> | <p>OR playschool*[tiab] OR prepube*[tiab] OR preadolescen*[tiab] OR junior high*[tiab] OR highschool*[tiab] OR senior high[tiab] OR young people*[tiab] OR minors[tiab] NOT (animals[mh] NOT (humans[mh] AND animals[mh]))</p> | |