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## Supplementary File 2 - Review characteristics

**Description:** Table of included meta-analyses and their characteristics.

Review characteristics for studies providing unique effects							
Review Characteristics							
Review characteristics for meta-analyses providing unique effects							
First Author	Year	Design Restrictions	Sample Restrictions	Year Range Earliest to Latest	Sample Age Restrictions (Age Range) <sup>1</sup>	Outcomes Assessed	Exposures Assessed
Abrami	2020	Include: Experimental designs	None specified	2009–2019	School-age Children (Early Primary, Elementary)	<ul style="list-style-type: none"><li>Literacy: Reading comprehension</li><li>Literacy: Phonics</li><li>Literacy: Phonemic awareness</li><li>Literacy: Reading comprehension</li><li>Literacy: Reading fluency</li><li>Literacy: Vocabulary knowledge</li></ul>	<ul style="list-style-type: none"><li>Intervention: Literacy (Abracadabra)</li></ul>
Adelantado-Renau	2019	Include: Cross-sectional studies	None specified	1992–2019	Children; Adolescents (5.7–18.0)	<ul style="list-style-type: none"><li>Learning: General</li><li>Memory: General</li><li>Numeracy: General</li></ul>	<ul style="list-style-type: none"><li>Screen use: General</li><li>TV programs and movies: General</li><li>Video games: General</li></ul>
Andrade	2019	Include: Interventions	Include: Overweight and obese	2010–2017	Children; Adolescents	<ul style="list-style-type: none"><li>Health: behavior: Self-efficacy</li><li>Psychological health: Depression</li><li>Psychological health: Environment</li><li>Self-perception: General</li><li>Self-perception: Self-esteem</li></ul>	<ul style="list-style-type: none"><li>Video games: Physically active</li></ul>
Arztmann	2022	None specified	None specified	2008–2020	School-age Children (Primary, Middle School)	<ul style="list-style-type: none"><li>Learning: Behavior</li><li>Learning: Motivation</li></ul>	<ul style="list-style-type: none"><li>Video games: Educational (with competition)</li></ul>
Aspiranti	2020	Include: Interventions	Include: Autism	2013–2015	School-age Children (Primary, Elementary)	<ul style="list-style-type: none"><li>Learning: General</li></ul>	<ul style="list-style-type: none"><li>Intervention: Education (touch screen)</li></ul>
Bartel	2015	None	Exclude: Atypical population (except for delayed sleep phase disorder or insomnia)	2004–2014	Adolescents (12.2–17.7)	<ul style="list-style-type: none"><li>Sleep: Bedtime</li><li>Sleep: Duration</li><li>Sleep: Time to fall asleep</li></ul>	<ul style="list-style-type: none"><li>Computer use: General</li><li>Screen use: General</li><li>Screen use: General (mobile phone)</li><li>TV programs and movies: General</li><li>Video games: General</li></ul>
Beck Silva	2022	Include: Randomised controlled trials and quasi-RCTs	Exclude: Any disease Mental disorders	1999–2019	Adolescents	<ul style="list-style-type: none"><li>Diet: Fat consumption</li></ul>	<ul style="list-style-type: none"><li>Intervention: Nutrition (in schools)</li></ul>
Benavides-Vélez	2020	Include: Randomised controlled trials	Include: Math difficulties	2006–2018	Children	<ul style="list-style-type: none"><li>Numeracy: Mathematics</li></ul>	<ul style="list-style-type: none"><li>Intervention: Mathematics</li></ul>
Blok	2002	None	Include: Regular students, poor readers or dyslexics Exclude: Severe or multiple disabilities	1990–2000	All (5.4–11.5)	<ul style="list-style-type: none"><li>Literacy: Reading fluency</li><li>Body composition</li><li>Cardiometabolic health: Fitness</li><li>Physical activity: General</li><li>Physical health: Muscular fitness</li></ul>	<ul style="list-style-type: none"><li>Video games: Health promoting content</li></ul>
Bossen	2020	Include: Randomised controlled trials	Include: Chronic disease	2011–2018	Children (10.0–15.7)		
Boyland	2016	Include: Experimental	None specified	2004–2015	Children; Adolescents (6.0–14.0)	<ul style="list-style-type: none"><li>Diet: Food intake</li></ul>	<ul style="list-style-type: none"><li>Advertising: Unhealthy food</li></ul>
Byun	2018	Include: All quantitative designs	None specified	2006–2014	School-age Children	<ul style="list-style-type: none"><li>Numeracy: General</li></ul>	<ul style="list-style-type: none"><li>Video games: Numeracy</li></ul>
Cao	2020	Include: designs with control groups	Exclude: Brain damage	2002–2019	Children (3.4–14.3)	<ul style="list-style-type: none"><li>Cognition: Executive functioning</li><li>Cognition: Executive Functioning (cognitive flexibility)</li><li>Cognition: Executive Functioning (inhibition)</li><li>Cognition: Executive Functioning (working memory)</li><li>Body composition</li><li>Diet: Fat intake</li><li>Diet: Fruit and vegetable intake</li><li>Diet: Fruit intake</li><li>Diet: Sugary drinks and snacks</li><li>Physical activity: General</li><li>Physical activity: Moderate-to-vigorous intensity</li><li>Risky behavior: alcohol consumption</li><li>Risky behavior: Smoking</li><li>Screen time: General</li></ul>	<ul style="list-style-type: none"><li>Computer use: Executive functioning training</li></ul>
Chauhan	2017	Include: pre-post designs with or without control group	None specified	2001–2016	School-age Children (Primary, Elementary)	<ul style="list-style-type: none"><li>Learning: General</li></ul>	<ul style="list-style-type: none"><li>Screen use: General (in schools)</li></ul>
Chen	2020	Include: Experimental designs	None specified	2008–2019	All	<ul style="list-style-type: none"><li>Learning: General</li></ul>	<ul style="list-style-type: none"><li>Video games: Educational (with competition)</li></ul>
Cheung	2012	Include: Randomised controlled trials	None specified	1982–2010	School-age Children	<ul style="list-style-type: none"><li>Literacy: Reading</li></ul>	<ul style="list-style-type: none"><li>Intervention: Reading (in schools)</li></ul>
Cheung	2013	Include: Experimental; Quasi-experimental	None specified	1980–2010	School-age Children	<ul style="list-style-type: none"><li>Numeracy: General</li></ul>	<ul style="list-style-type: none"><li>Intervention: Mathematics (in schools)</li></ul>
Cho	2018	Include: experimental designs with control group	None specified	2008–2013	All	<ul style="list-style-type: none"><li>Learning: Second language</li></ul>	<ul style="list-style-type: none"><li>Screen use: General (mobile phone learning)</li></ul>
Claussen	2022	Include: Longitudinal; Retrospective	None specified	2004–2018	All	<ul style="list-style-type: none"><li>Psychological health: ADHD</li><li>Psychological health: ADHD Symptoms (inattention)</li></ul>	<ul style="list-style-type: none"><li>Screen use: General</li></ul>
Clinton	2019	Include: randomised experimental designs	Exclude: Disabilities	2011–2016	All	<ul style="list-style-type: none"><li>Literacy: Reading performance</li></ul>	<ul style="list-style-type: none"><li>Screen use: Reading (vs paper)</li></ul>
Comeras-Chueca	2021	include: randomized and non-randomized controlled trials (control group with no intervention or traditional exercise intervention)	Exclude: Disabilities, diseases or obesity	2008–2019	All (4.5–11.6)	<ul style="list-style-type: none"><li>Body composition: BMI</li><li>Body composition: BMI z-score</li><li>Body composition: Body fat percentage</li><li>Body composition: Fat-free mass</li><li>Body composition: Waist circumference</li></ul>	<ul style="list-style-type: none"><li>Video games: Physically active</li></ul>
Comeras-Chueca	2021	Include: randomised and non-randomized controlled trials with control group with no intervention or traditional exercise intervention	Include: Overweight and obese Exclude: Disabilities, diseases or disorders other than obesity	2010–2020	All (8.0–14.0)	<ul style="list-style-type: none"><li>Aggression: Towards peers</li><li>Conduct: Reducing stereotypes</li><li>Conduct: Social interactions: General</li></ul>	<ul style="list-style-type: none"><li>Video games: Physically active</li></ul>
Coyne	2018	None	None specified	1975–2017	Children; Adolescents	<ul style="list-style-type: none"><li>Prisocial Behavior: General</li></ul>	<ul style="list-style-type: none"><li>Screen use: Prisocial content</li></ul>
Cunningham	2021	Include: Quantitative designs	None specified	2014–2018	All (11.2–16.8)	<ul style="list-style-type: none"><li>Psychological health: Depression</li></ul>	<ul style="list-style-type: none"><li>Social Media: General (duration)</li></ul>
Cushing	2010	Include: All quantitative designs; Experimental	None specified	1989–2009	Children; Adolescents	<ul style="list-style-type: none"><li>Health: behavior: General</li></ul>	<ul style="list-style-type: none"><li>Intervention: Health behaviours</li></ul>
Darling	2017	Include: Intervention	None specified	2006–2016	Children; Adolescents (8.7–16.0)	<ul style="list-style-type: none"><li>Psychological health: Externalizing</li><li>Psychological health: Internalizing</li></ul>	<ul style="list-style-type: none"><li>Intervention: To promote health (via mobile phone)</li></ul>
Eirich	2022	Include: experimental or observational	Exclude: Atypically developing	1978–2021	Children (0.5–11.0)	<ul style="list-style-type: none"><li>Risky behavior: Sexual activity (initiation)</li></ul>	<ul style="list-style-type: none"><li>Screen use: General</li></ul>
Feng	2021	Include: Quantitative designs	Include: Healthy children	2017–2019	Early childhood; Pre-school	<ul style="list-style-type: none"><li>Body composition: BMI z-score</li></ul>	<ul style="list-style-type: none"><li>Screen use: General (meeting guidelines)</li></ul>
Ferguson	2017	None	None specified	2005–2017	Children; Adolescents	<ul style="list-style-type: none"><li>Risky behavior: Sexual activity</li><li>Risky behavior: Sexual activity (initiation)</li></ul>	<ul style="list-style-type: none"><li>Screen use: Sexual content</li></ul>
Ferguson	2020	Include: Experimental, correlational, or longitudinal	None specified	2009–2013	All (7.8–17.5)	<ul style="list-style-type: none"><li>Aggression: General</li></ul>	<ul style="list-style-type: none"><li>Video games: Violent content</li></ul>
Folkvord	2018	Include: Interventions	None specified	2007–2018	Children; Adolescents	<ul style="list-style-type: none"><li>Diet: Food intake (calories)</li></ul>	<ul style="list-style-type: none"><li>Advertising: Advergames</li></ul>
Furennes	2021	Include: experimental or quasi-experimental	Exclude: Cochlear implants or autism	2002–2019	Early childhood; Pre-school; School-age Children (Early Primary, Elementary)	<ul style="list-style-type: none"><li>Literacy: Reading comprehension</li><li>Literacy: Vocabulary learning</li></ul>	<ul style="list-style-type: none"><li>eBooks: General</li></ul>
Gardella	2017	Include: Cross-sectional	None specified	2006–2014	Adolescents (12.5–16.2)	<ul style="list-style-type: none"><li>Learning: Educational achievement problems</li><li>Learning: School attendance problems</li></ul>	<ul style="list-style-type: none"><li>Internet use: Cyberbullying victimization</li></ul>
Garzón	2019	Include: Experimental with control group	None specified	NA	All	<ul style="list-style-type: none"><li>Learning: General</li></ul>	<ul style="list-style-type: none"><li>Intervention: Augmented reality</li></ul>
Graham	2015	Include: Experimental; Quasi-experimental	None specified	2004–2011	School-age Children (Primary, Elementary, Middle School)	<ul style="list-style-type: none"><li>Literacy: Writing</li></ul>	<ul style="list-style-type: none"><li>Intervention: Writing feedback</li></ul>
Hammersley	2016	Include: Randomised controlled trials	Exclude: Those with special needs, require a special diet, or have a condition that would limit physical activity	2003–2013	Children; Adolescents	<ul style="list-style-type: none"><li>Body composition</li></ul>	<ul style="list-style-type: none"><li>Intervention: To promote healthy weight (obesity prevention)</li></ul>
Hao	2021	Include: Experimental with control group	Exclude: Disabilities	2012–2018	School-age Children	<ul style="list-style-type: none"><li>Learning: Second language</li><li>Psychological health: ADHD</li><li>Psychological health: ADHD Symptoms (inattention)</li><li>Physical activity: Moderate-to-vigorous intensity</li><li>Risky behavior: alcohol consumption</li><li>Risky behavior: Smoking</li><li>Screen time: General</li></ul>	<ul style="list-style-type: none"><li>Screen use: Reading (vs paper)</li></ul>
Hassan-Saleh	2019	Include: Experimental; Quasi-experimental	None specified	2008–2016	Children; Adolescents	<ul style="list-style-type: none"><li>Physical activity: General</li></ul>	<ul style="list-style-type: none"><li>Intervention: To promote physical activity (via mobile phone)</li></ul>
He	2021	Include: Randomised controlled trials	None specified	2009–2018	Children; Adolescents (6.9–16.6)	<ul style="list-style-type: none"><li>Physical activity: General</li></ul>	<ul style="list-style-type: none"><li>Intervention: To promote physical activity (via mobile phone)</li></ul>
Hernandez-Jimenez	2019	Include: Experimental; Quasi-experimental	None specified	2009–2017	Children; Adolescents	<ul style="list-style-type: none"><li>Body composition</li></ul>	<ul style="list-style-type: none"><li>Video games: Physically active</li></ul>
Hurwitz	2018	None	None specified	1997–2018	Early childhood; Pre-school; School-age Children (Early Primary, Elementary)	<ul style="list-style-type: none"><li>Literacy: General</li></ul>	<ul style="list-style-type: none"><li>Intervention: Literacy videos</li></ul>
Ivie	2020	Include: Correlational studies	None specified	2012–2019	Adolescents (14.0–18.0)	<ul style="list-style-type: none"><li>Psychological health: Depression</li></ul>	<ul style="list-style-type: none"><li>Social Media: General</li></ul>
Janssen	2020	Include: Experimental; Cross-sectional; Longitudinal	Include: Healthy children	2007–2019	Children	<ul style="list-style-type: none"><li>Sleep: Duration</li></ul>	<ul style="list-style-type: none"><li>Screen use: General</li></ul>
Kates	2018	None	None specified	2008–2016	School-age Children	<ul style="list-style-type: none"><li>Learning: General</li></ul>	<ul style="list-style-type: none"><li>Screen use: General (mobile phone)</li></ul>
Kim	2021	Include: experimental or quasi-experimental	None specified	2010–2018	School-age Children (Early Primary, Elementary)	<ul style="list-style-type: none"><li>Learning: Literacy and numeracy</li><li>Learning: Numeracy: General</li></ul>	<ul style="list-style-type: none"><li>Screen use: Educational apps</li></ul>
Kroesbergen	2003	Include: Within subject design; between subject design	Include: Math difficulties	1985–1999	School-age Children (Primary, Elementary)	<ul style="list-style-type: none"><li>Numeracy: General</li></ul>	<ul style="list-style-type: none"><li>Intervention: Mathematics (via computer in classrooms)</li></ul>
Kucukkalan	2019	Include: Experimental	Include: Dyscalculia	2007–2016	School-age Children (Primary, Elementary)	<ul style="list-style-type: none"><li>Numeracy: General</li></ul>	<ul style="list-style-type: none"><li>Intervention: Mathematics</li></ul>
Li	2010	Include: Experimental; Quasi-experimental	None specified	1991–2005	School-age Children	<ul style="list-style-type: none"><li>Developmental: Gross motor (locomotor)</li><li>Developmental: Object control (non-locomotor)</li><li>Developmental: Gross motor (object control)</li></ul>	<ul style="list-style-type: none"><li>Intervention: Active video games for motor skills</li></ul>
Li	2022	Include: Randomised controlled trials	Include: Atypically developing	2012–2020	Children; Adolescents	<ul style="list-style-type: none"><li>Learning: Second language</li><li>Psychological health: Externalizing</li><li>Psychological health: Internalizing</li></ul>	<ul style="list-style-type: none"><li>Intervention: Virtual reality simulations (Educational)</li></ul>
Major	2021	Include: Randomised controlled trials	None specified	2007–2020	Children; Adolescents	<ul style="list-style-type: none"><li>Learning: Cognitive functioning</li><li>Learning: Executive functioning</li><li>Learning: General</li><li>Learning: Psychomotor skills</li></ul>	<ul style="list-style-type: none"><li>Intervention: Literacy (Abracadabra)</li></ul>
Mallawaarachchi	2022	Include: Cross-sectional or longitudinal	Include: Non-clinical	2014–2020	Early childhood; Pre-school (1.4–5.4)	<ul style="list-style-type: none"><li>Language: Reading comprehension</li><li>Language: Spelling</li><li>Psychological health: Self-regulation</li></ul>	<ul style="list-style-type: none"><li>Screen use: General (mobile or tablet)</li></ul>
Mares	2005	None	None specified	1989–1999	Children	<ul style="list-style-type: none"><li>Conduct: Aggression: General</li><li>Conduct: Moral reasoning and perception of out-groups</li><li>Learning: General</li><li>Learning: Literacy and numeracy</li><li>Learning: Physical and social environment</li></ul>	<ul style="list-style-type: none"><li>Video games: General</li></ul>
Mares	2013	None	None specified	1973–2010	Children	<ul style="list-style-type: none"><li>Aggression: Towards peers</li><li>Conduct: Reducing stereotypes</li><li>Conduct: Social interactions: General</li></ul>	<ul style="list-style-type: none"><li>Intervention: Sesame Street</li></ul>
Marker	2022	None specified	None specified	2001–15	All (6.0–12.2)	<ul style="list-style-type: none"><li>Body composition</li></ul>	<ul style="list-style-type: none"><li>Video games: General</li></ul>
Marshall	2004	None	None specified	1985–2002	Children; Adolescents	<ul style="list-style-type: none"><li>Body composition</li><li>Body composition: BMI</li><li>Body composition: BMI z-score</li></ul>	<ul style="list-style-type: none"><li>TV programs and movies: General</li></ul>
Martins	2019	Include: All quantitative designs; Experimental	None specified	2003–2018	All	<ul style="list-style-type: none"><li>Aggression: Towards peers</li></ul>	<ul style="list-style-type: none"><li>TV programs and movies: General</li></ul>
Martins	2022	Include: Cross-over or parallel randomized controlled trials	None specified	2006–2017	Children; Adolescents	<ul style="list-style-type: none"><li>Diet: Food intake (calories)</li></ul>	<ul style="list-style-type: none"><li>TV programs and movies: Mealtimes</li></ul>
Mazeas	2022	Include: Randomised controlled trials	Exclude: Contraindications to physical activity; Intellectual and cognitive impairments	2015–2019	All (10.3–17.8)	<ul style="list-style-type: none"><li>Physical activity: General</li></ul>	<ul style="list-style-type: none"><li>Intervention: To promote healthy activity (via gamification)</li></ul>
McArthur	2012	Include: Randomised controlled trials and quasi-RCTs	Include: Poor readers	1994–2009	All (6.7–16.2)	<ul style="list-style-type: none"><li>Literacy: Phonics</li></ul>	<ul style="list-style-type: none"><li>Intervention: Literacy (phonics; via computer)</li></ul>
McArthur	2018	Include: Randomised controlled trials and quasi-RCTs	Include: Poor readers	1994–2015	Children; Adolescents	<ul style="list-style-type: none"><li>Literacy: General</li></ul>	<ul style="list-style-type: none"><li>Intervention: Literacy</li></ul>
Mei	2018	Include: cross-sectional, case-control, and cohort studies	None specified	2004–2018	Nov–20 (13.5–16.8)	<ul style="list-style-type: none"><li>Sleep: Duration</li><li>Sleep: Problems</li><li>Sleep: Time to fall asleep</li></ul>	<ul style="list-style-type: none"><li>Screen use: General (excessive)</li></ul>
Merchant	2014	Include: Experimental with control group	None specified	NA	School-age Children	<ul style="list-style-type: none"><li>Learning: General</li></ul>	<ul style="list-style-type: none"><li>Screen use: Virtual reality worlds (Educational)</li><li>Screen use: Video games: Virtual reality (Educational)</li></ul>
Neitzel	2022	Include: random assignment or quasi-experimental	Include: Both typically developing and atypically developing with neuro				

## Supplementary File 3 - Effect Characteristics

**Description:** Descriptive table for the included effects.

## Effect Size Characteristics

Characteristics of included and excluded effect sizes

<b>Variable</b>	<b>Effect Size Used</b>	
	<b>Not Used, N = 199<sup>1</sup></b>	<b>Used, N = 252<sup>1</sup></b>
<b>Review Year</b>		
1982	0 (0%)	1 (0.4%)
1994	0 (0%)	3 (1.2%)
2002	0 (0%)	1 (0.4%)
2003	0 (0%)	1 (0.4%)
2004	6 (3.0%)	11 (4.4%)
2005	0 (0%)	4 (1.6%)
2008	0 (0%)	1 (0.4%)
2009	0 (0%)	2 (0.8%)
2010	0 (0%)	2 (0.8%)
2011	3 (1.5%)	3 (1.2%)
2012	1 (0.5%)	2 (0.8%)
2013	4 (2.0%)	12 (4.8%)
2014	1 (0.5%)	7 (2.8%)
2015	8 (4.0%)	16 (6.3%)
2016	16 (8.0%)	9 (3.6%)
2017	10 (5.0%)	8 (3.2%)
2018	6 (3.0%)	15 (6.0%)
2019	38 (19%)	50 (20%)
2020	25 (13%)	49 (19%)
2021	28 (14%)	24 (9.5%)
2022	53 (27%)	31 (12%)

<sup>1</sup> n (%); Median (IQR)

## Effect Size Characteristics

Characteristics of included and excluded effect sizes

<b>Variable</b>	<b>Effect Size Used</b>	
	<b>Not Used, N = 199<sup>1</sup></b>	<b>Used, N = 252<sup>1</sup></b>
<b>Outcome Category</b>		
Education	41 (21%)	88 (35%)
Health Behaviour	56 (28%)	63 (25%)
Physical Health	63 (32%)	31 (12%)
Psychology	39 (20%)	69 (27%)
(missing)	0	1
<b>Broad Outcome</b>		
Aggression	0 (0%)	4 (1.6%)
Antisocial Behaviour	0 (0%)	3 (1.2%)
Body composition	46 (23%)	25 (9.9%)
Cardiometabolic health	4 (2.0%)	3 (1.2%)
Cognition	10 (5.0%)	21 (8.3%)
Developmental	0 (0%)	5 (2.0%)
Diet	17 (8.5%)	15 (6.0%)
Eye health	10 (5.0%)	0 (0%)
Healthy behavior	1 (0.5%)	4 (1.6%)
Learning	29 (15%)	43 (17%)
Literacy	10 (5.0%)	33 (13%)
Numeracy	2 (1.0%)	11 (4.4%)
Physical activity	19 (9.5%)	20 (7.9%)
Physical health	3 (1.5%)	1 (0.4%)
Prosocial Behavior	0 (0%)	3 (1.2%)

<sup>1</sup> n (%); Median (IQR)

## Effect Size Characteristics

Characteristics of included and excluded effect sizes

<b>Variable</b>	<b>Effect Size Used</b>	
	<b>Not Used, N = 199<sup>1</sup></b>	<b>Used, N = 252<sup>1</sup></b>
Psychological health	23 (12%)	26 (10%)
Risky behavior	10 (5.0%)	7 (2.8%)
Science	0 (0%)	1 (0.4%)
Screen time	3 (1.5%)	4 (1.6%)
Self-perceptions	1 (0.5%)	2 (0.8%)
Sleep	11 (5.5%)	20 (7.9%)
Social interactions	0 (0%)	1 (0.4%)
<b>Broad Exposure</b>		
Advertising	14 (7.0%)	5 (2.0%)
Computer use	9 (4.5%)	11 (4.4%)
e-Books	0 (0%)	5 (2.0%)
Internet use	1 (0.5%)	7 (2.8%)
Screen use	77 (39%)	47 (19%)
Screen-based intervention	56 (28%)	92 (37%)
Social Media	6 (3.0%)	10 (4.0%)
TV advertising	1 (0.5%)	0 (0%)
TV programs and movies	12 (6.0%)	30 (12%)
Video games	23 (12%)	45 (18%)
<b>Number of Contributing Studies</b>	5 (3, 10)	8 (4, 16)
(missing)	9	3
<b>Pooled Sample Size</b>	1,894 (672, 9,752)	2,029 (737, 5,923)
<b>Age Group</b>		

<sup>1</sup> n (%); Median (IQR)

## Effect Size Characteristics

Characteristics of included and excluded effect sizes

	<b>Effect Size Used</b>	
<b>Variable</b>	<b>Not Used, N = 199<sup>1</sup></b>	<b>Used, N = 252<sup>1</sup></b>
Adolescents	21 (11%)	57 (23%)
Children	47 (24%)	74 (29%)
Mixed	116 (58%)	102 (40%)
Young	15 (7.5%)	19 (7.5%)
<b>Sample Type</b>		
Atypically developing	1 (0.5%)	3 (1.2%)
Autism	6 (3.0%)	1 (0.4%)
Chronic disease	1 (0.5%)	4 (1.6%)
Dyscalculia	0 (0%)	1 (0.4%)
General	186 (93%)	228 (90%)
Math difficulties	1 (0.5%)	2 (0.8%)
Overweight and obese	4 (2.0%)	10 (4.0%)
Poor readers	0 (0%)	3 (1.2%)
<b>Study Design</b>		
Cross-sectional	4 (2.0%)	16 (6.3%)
Experimental	108 (54%)	129 (51%)
Longitudinal	8 (4.0%)	12 (4.8%)
Mixed or unclear	50 (25%)	79 (31%)
Observational	29 (15%)	16 (6.3%)
<b>Study-level Data Available</b>	150 (75%)	187 (74%)
<b>Meets Statistical Certainty Criteria</b>		
Meets Criteria	8 (4.0%)	43 (17%)

<sup>1</sup> n (%); Median (IQR)

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## Effect Size Characteristics

Characteristics of included and excluded effect sizes

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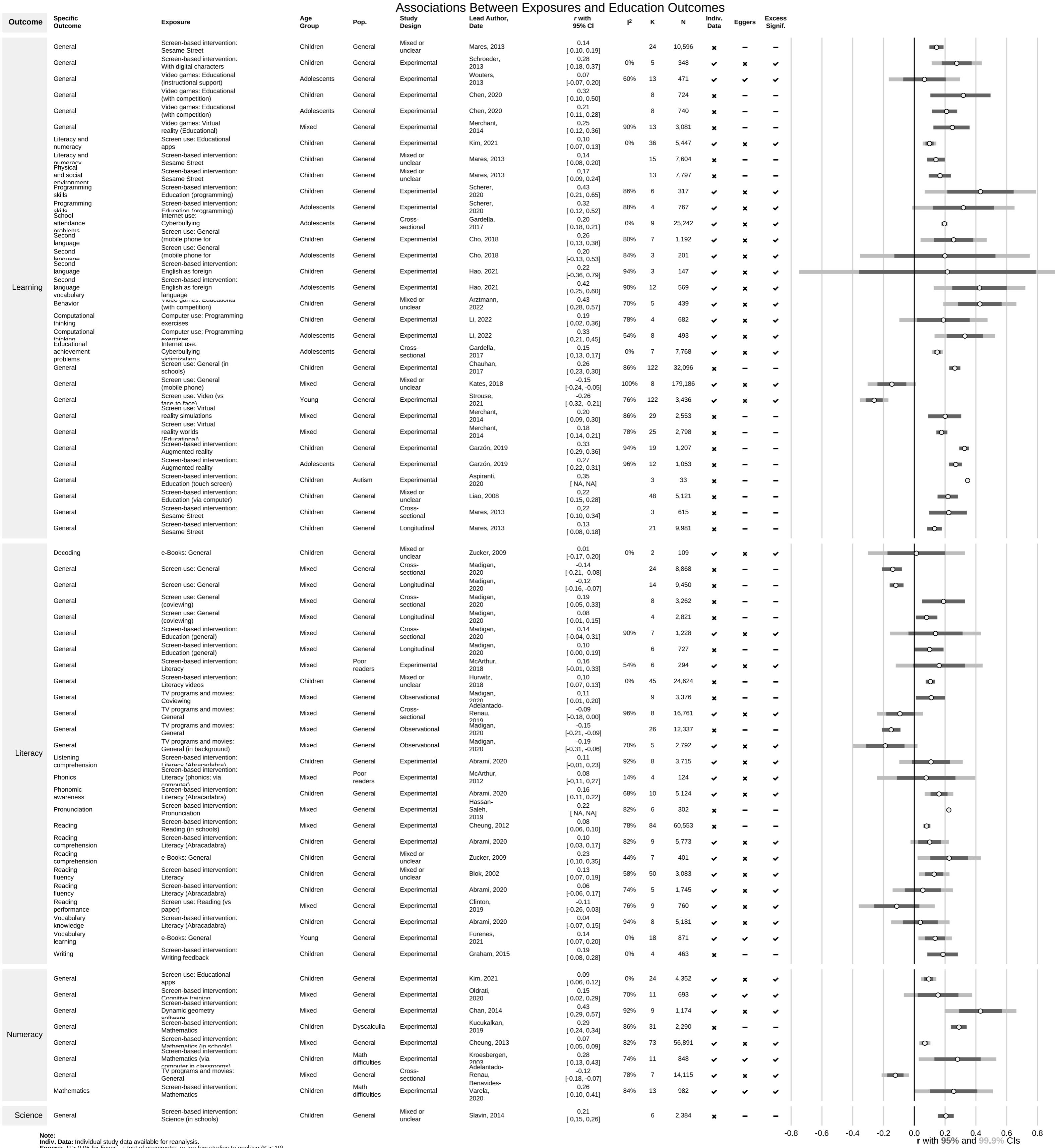
Variable	Effect Size Used	
	Not Used, N = 199 <sup>1</sup>	Used, N = 252 <sup>1</sup>
Unclear	191 (96%)	209 (83%)

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<sup>1</sup> n (%); Median (IQR)

## Supplementary File 4 - Education Outcomes

**Description:** Additional education outcomes which did not meet certainty criteria.



## Supplementary File 5 - Health-related Outcomes

**Description:** Additional health-related outcomes which did not meet certainty criteria.

Associations Between Exposures and Health-related Outcomes						
Study Design	Lead Author, Date	r with 95% CI	I <sup>2</sup>	K	N	Indiv. Data

Associations Between Exposures and Health-related Outcomes													
Outcome	Specific Outcome	Exposure	Age Group	Pop.	Study Design	Lead Author, Date	n with 95% CI	P	K	N	Indiv. Data	Eggers	Excess Signif.
Aggression	Towards peers	Screen use: General	Mixed	General	Mixed or unclear	Martins, 2019	0.01 [0.02, 0.05]	3	707	x	-	-	
	Towards peers	TV programs and movies: General	Children	General	Mixed or unclear	Mares, 2005	0.26 [0.20, 0.33]	15	747	x	-	-	
	Towards peers	Video games: Violent content	Children	General	Longitudinal	Prescott, 2010	0.10 [0.07, 0.12]	7	3,583	x	-	-	
Antisocial Behaviour	General	TV programs and movies: Violent content	Young	General	Mixed or unclear	Palk, 1994	0.46 [0.41, 0.51]	1,117	x	-	-	-	
	General	TV programs and movies: Violent content	Children	General	Mixed or unclear	Palk, 1994	0.31 [0.21, 0.40]	351	x	-	-	-	
	General	TV programs and movies: Violent content	Adolescents	General	Mixed or unclear	Palk, 1994	0.22 [0.12, 0.32]	334	x	-	-	-	
Body composition	BMI z-score	Screen use: General (meeting guidelines)	Young	General	Mixed or unclear	Feng, 2021	0.07 [0.09, 0.24]	86%	4	1,275	v	x	v
	BMI z-score	Video games: Physically active	Mixed	Overweight and obese	Experimental	Comerma-Chueca, 2020	-0.03 [0.11, 0.05]	0%	6	597	v	x	v
	Body fat percentage	Video games: Physically active	Mixed	Overweight and obese	Experimental	Comerma-Chueca, 2020	-0.30 [0.46, -0.14]	44%	3	408	v	x	v
	Body composition	Computer use: General	Mixed	General	Longitudinal	van Eekh, 2016	0.08 [0.10, 0.27]	98%	5	7,888	v	x	v
	Body composition	Screen-based intervention: Lifestyle risk behaviour (at school)	Mixed	General	Experimental	Champion, 2019	-0.06 [0.21, 0.08]	30%	5	3,480	x	-	-
	Body composition	Screen-based intervention: Screen-time reduction	Mixed	General	Experimental	Liao, 2014	-0.09 [0.18, 0.01]	0%	5	541	v	x	v
	Body composition	Screen-based intervention: To promote health (via mobile phone and screen)	Adolescents	General	Experimental	Shin, 2019	-0.02 [0.09, 0.05]	0%	6	863	v	x	v
	Body composition	Screen-based intervention: To promote health (via mobile phone and screen)	Mixed	General	Experimental	Darling, 2017	-0.21 [0.31, -0.09]	9	565	x	-	-	
	Body composition	Screen-based intervention: To promote health (via mobile phone and screen)	Adolescents	General	Experimental	Shin, 2019	-0.02 [0.07, 0.03]	0%	9	1,356	v	x	v
	Body composition	Screen-based intervention: To promote health (via mobile phone and screen)	Adolescents	General	Experimental	Shin, 2019	-0.01 [0.10, 0.07]	0%	3	505	v	x	v
	Body composition	Screen-based intervention: To promote health (via mobile phone and screen)	Mixed	General	Experimental	Hammesley, 2016	0.07 [0.12, 0.27]	88%	4	1,102	v	x	v
	Body composition	TV programs and movies: General	Mixed	General	Cross-sectional	Marshall, 2004	0.05 [0.04, 0.06]	43	28,718	x	-	-	
	Body composition	TV programs and movies: General	Mixed	General	Longitudinal	van Eekh, 2016	0.11 [0.02, 0.19]	98%	9	25,716	v	x	v
	Body composition	TV programs and movies: General	Mixed	General	Mixed or unclear	Marshall, 2004	0.07 [0.06, 0.08]	70%	52	44,707	x	-	-
	Body composition	TV programs and movies: General	Young	General	Mixed or unclear	Marshall, 2004	0.15 [0.04, 0.26]	78%	4	2,047	v	x	v
Cardiometabolic health	Fitness	Video games: Health promoting content	Children	Chronic disease	Experimental	Bosser, 2020	0.16 [0.00, 0.32]	10%	2	161	v	x	v
	Fitness	Video games: Physically active	Children	General	Experimental	Comerma-Chueca, 2021	0.21 [0.01, 0.43]	90%	4	892	v	x	v
	Maximum oxygen consumption	Video games: Physically active	Children	General	Mixed or unclear	Peng, 2011	0.82 [0.74, 0.87]	9	172	x	-	-	
Cognition	Cognitive Functioning	Screen-based intervention: Cognitive training	Mixed	General	Experimental	Oldrati, 2020	0.21 [0.13, 0.28]	88%	68	3,540	v	x	v
	Creativity	Screen use: General	Children	General	Experimental	Liu, 2022	0.29 [0.13, 0.27]	84%	60	3,648	v	x	v
	Creativity	Screen use: General	Adolescents	General	Experimental	Liu, 2022	0.29 [0.15, 0.42]	98%	46	9,620	v	x	v
	Executive functioning (Executive functioning (improvement))	Screen-based intervention: Education (via computer)	Children	General	Experimental	Takacs, 2019	0.21 [0.12, 0.28]	58%	28	1,563	x	-	-
	Executive functioning (Executive functioning (improvement))	Computer use: Executive functioning training	Children	General	Experimental	Cao, 2020	0.06 [0.02, 0.14]	46%	12	1,015	x	-	-
	Executive functioning (Executive functioning (improvement))	Screen-based intervention: Education (via computer)	Children	General	Experimental	Takacs, 2019	0.12 [0.04, 0.22]	12	617	x	-	-	
	Executive functioning (Executive functioning (improvement))	Computer use: Executive functioning training	Children	General	Experimental	Cao, 2020	0.11 [0.07, 0.17]	22%	22	1,512	x	-	-
	Executive functioning (Executive functioning (improvement))	Screen-based intervention: Education (via computer)	Children	General	Experimental	Takacs, 2019	0.09 [0.02, 0.16]	15	894	x	-	-	
	Executive functioning (Executive functioning (improvement))	Computer use: Executive functioning training	Children	General	Experimental	Cao, 2020	0.20 [0.14, 0.26]	56%	28	2,170	x	-	-
	Executive functioning (Executive functioning (improvement))	Screen-based intervention: Education (via computer)	Children	General	Experimental	Takacs, 2019	0.23 [0.14, 0.32]	21	1,220	x	-	-	
	Executive functioning (Executive functioning (improvement))	Computer use: Executive functioning training	Children	General	Experimental	Cao, 2020	0.20 [0.15, 0.25]	54%	36	2,975	v	x	v
	Executive functioning (Executive functioning (improvement))	Computer use: Executive functioning training	Children	General	Experimental	Cao, 2020	0.18 [0.13, 0.23]	48%	34	2,585	x	-	-
	Executive functioning (Executive functioning (improvement))	Screen-based intervention: Lifestyle risk behaviour (at school)	Young	General	Observational	Mallawarachchi, 2022	-0.10 [0.20, 0.00]	40%	5	610	v	x	v
	Executive functioning (Executive functioning (improvement))	Screen-based intervention: Cognitive training	Mixed	General	Experimental	Oldrati, 2020	0.18 [0.03, 0.40]	92%	13	571	v	x	v
	Executive functioning (Executive functioning (improvement))	Screen-based intervention: Cognitive training	Young	General	Experimental	Scionti, 2019	0.13 [0.06, 0.18]	38%	57	2,605	v	x	v
	Executive functioning (Executive functioning (improvement))	Screen-based intervention: Sesame Street	Children	General	Mixed or unclear	Mares, 2013	0.09 [0.06, 0.13]	17	5,837	x	-	-	
	Executive functioning (Executive functioning (improvement))	TV programs and movies: General	Children	General	Mixed or unclear	Mares, 2006	0.22 [0.18, 0.26]	37	1,814	x	-	-	
Developmental	Gross motor (kinaesthetic)	Screen-based intervention: Active video games for幼兒	Mixed	Atypically developing	Experimental	Li, 2022	0.31 [0.22, 0.40]	18%	14	472	v	x	v
	Gross motor (kinaesthetic)	Screen-based intervention: Active video games for幼兒	Mixed	Atypically developing	Experimental	Li, 2022	0.27 [0.12, 0.41]	82%	17	556	v	x	v
	Gross motor (object control)	Screen-based intervention: Active video games for motor skills	Mixed	Atypically developing	Experimental	Li, 2022	0.16 [0.08, 0.40]	74%	5	214	v	x	v
Diet	Fat intake	Screen-based intervention: Lifestyle risk behaviour (at school)	Mixed	General	Experimental	Champion, 2019	-0.03 [0.00, 0.01]	46%	5	5,240	v	x	v
	Fat intake	Screen-based intervention: Nutrition (in schools)	Mixed	General	Experimental	Beck Silva, 2022	-0.07 [0.12, -0.02]	0%	2	2,840	x	-	-
	Fruit intake (Fruit and vegetable intake)	Screen-based intervention: Fruit and vegetable intake	Mixed	General	Experimental	Marinis, 2022	0.03 [0.06, 0.12]	0%	4	496	v	x	v
	Fruit intake (Fruit and vegetable intake)	Screen-based intervention: Fruit and vegetable intake	Children	General	Experimental	Hodriguez-Rocha, 2019	0.12 [0.05, 0.28]	82%	4	955	v	x	v
	Fruit intake (Fruit and vegetable intake)	Screen-based intervention: Fruit and vegetable intake	Adolescents	General	Experimental	Hodriguez-Rocha, 2019	0.16 [0.09, 0.23]	56%	4	1,666	v	x	v
	Fruit intake (Fruit and vegetable intake)	Screen-based intervention: Lifestyle risk behaviour (at school)	Mixed	General	Experimental	Champion, 2019	0.03 [0.01, 0.07]	58%	6	6,034	v	x	v
	Fruit intake (Fruit and vegetable intake)	Screen-based intervention: Lifestyle risk behaviour (at school)	Mixed	General	Experimental	Champion, 2019	0.03 [0.00, 0.07]	0%	3	2,739	v	x	v
	Fruit intake (Fruit and vegetable intake)	Screen-based intervention: Lifestyle risk behaviour (at school)	Adolescents	General	Experimental	Darling, 2017	0.05 [0.00, 0.10]	8	1,806	x	-	-	
	Fruit intake (Fruit and vegetable intake)	Advertising: Unhealthy food	Mixed	General	Experimental	Sadeghirad, 2016	0.11 [0.02, 0.24]	88%	12	2,053	x	-	-
	Fruit intake (Fruit and vegetable intake)	Advertising: Unhealthy food	Young	General	Experimental	Sadeghirad, 2016	0.22 [0.12, 0.32]	48%	8	710	v	x	v
	Fruit intake (Fruit and vegetable intake)	Advertising: Unhealthy food	Children	General	Experimental	Sadeghirad, 2016	-0.20 [0.64, 0.24]	100%	4	2,298	v	x	v
	Verbal skills	Screen-based intervention: Cognitive training	Mixed	General	Experimental	Oldrati, 2020	0.21 [0.03, 0.31]	52%	14	800	v	x	v
	Visuospatial skills	Screen-based intervention: Cognitive training	Mixed	General	Experimental	Oldrati, 2020	0.21 [0.11, 0.31]	52%	14	800	v	x	v
Physical activity	Energy expenditure	Video games: Physically active	Children	General	Mixed or unclear	P							

## Supplementary File 7 - Search Strategy

**Description:** The search strategies used in each database

## PubMed Search Strategy

((infant[MeSH Terms] OR child[MeSH Terms] OR minors[MeSH Terms] OR school age population[MeSH Terms] OR pediatrics[MeSH Terms] OR adolescen\*[MeSH Terms]) **OR** (boy\*[Title/Abstract] OR child\*[Title/Abstract] OR girl\*[Title/Abstract] OR kindergarten[Title/Abstract] OR paediatric[Title/Abstract] OR pediatric[Title/Abstract] OR infan\* OR baby[Title/Abstract] OR babies[Title/Abstract] OR toddler\*[Title/Abstract] OR "young child\*" [Title/Abstract] OR "early childhood" [Title/Abstract] OR "early years" [Title/Abstract] OR pre-school\*[Title/Abstract] OR preschool\*[Title/Abstract] OR "pre school\*" [Title/Abstract] OR "school age\*" [Title/Abstract] OR school-age\*[Title/Abstract] OR youth\*[Title/Abstract] OR adolescen\*[Title/Abstract] OR "young pe\*" [Title/Abstract] OR teen\*[Title/Abstract] OR preadolescen\*[Title/Abstract])) **AND** ((television[MeSH Terms] OR computers[MeSH Terms] OR video games[MeSH Terms] OR sedentary lifestyle[MeSH Terms] OR smartphone[MeSH Terms] OR cell phones[MeSH Terms] OR computers, handheld[MeSH Terms]) **OR** (Television[Title/Abstract] OR TV[Title/Abstract] OR "Screen viewing" [Title/Abstract] OR "Screen time" [Title/Abstract] OR "Screen exposure" [Title/Abstract] OR Computer\*[Title/Abstract] OR "Video gam\*" [Title/Abstract] OR Sedentary[Title/Abstract] OR Inactivity[Title/Abstract] OR "E gam\*" [Title/Abstract] OR e-gam\*[Title/Abstract] OR Tablet\*[Title/Abstract] OR "Cell phone\*" [Title/Abstract] OR "Mobile Phone\*" [Title/Abstract] OR "Mobile us\*" [Title/Abstract] OR "Media time" [Title/Abstract] OR "Media us\*" [Title/Abstract] OR "handheld device\*" [Title/Abstract] OR "game device\*" [Title/Abstract] OR "gaming device\*" [Title/Abstract] OR "game console\*" [Title/Abstract] OR "gaming console\*" [Title/Abstract] OR "electronic media" [Title/Abstract] OR smartphone\*[Title/Abstract] OR "smart phone\*" [Title/Abstract])) **AND** ((Review[Title] OR meta-analysis[Title] OR meta-regression[Title] OR synthesis [Title] OR meta-synthesis[Title] OR "meta analysis" [Title] OR "meta regression" [Title] OR "meta synthesis" [Title]) **OR** (Review[Publication Type] OR Meta-Analysis[Publication Type])))

**Version 1=** Above

**Version 2 =** delete terms following final "AND", limit results "Review" after search

## MEDLINE Search Strategy

(MH ("child" OR "minors" OR Infant OR "school age population" OR "pediatrics" OR "Adolescen\*") **OR** TI (boy\* OR girl\* OR kindergarten OR paediatric OR pediatric OR infan\* OR baby OR babies OR toddler\* OR "young child\*" OR child\* OR "early childhood" OR "early years" OR pre-school\* OR preschool\* OR "pre school\*" OR "school age\*" OR school-age\* OR adolescen\* OR youth\* OR "young pe\*" OR teen\* OR preadolescen\*) **OR** AB (boy\* OR girl\* OR kindergarten OR paediatric OR pediatric OR infan\* OR baby OR babies OR toddler\* OR "young child\*" OR child\* OR "early childhood" OR "early years" OR pre-school\* OR preschool\* OR "pre school\*" OR "school age\*" OR school-age\* OR adolescen\* OR youth\* OR "young pe\*" OR teen\* OR preadolescen\*)) **AND** (MH ("television" OR "computers" OR "video games" OR "sedentary lifestyle" OR "smartphone" OR "cell phones" OR "computers, handheld") **OR** TI (Television OR TV OR "Screen viewing" OR Screen time OR Screen exposure OR Computer\* OR Video gam\* OR

Sedentary OR Inactivity OR "E gam\*" OR e-gam\* OR Tablet\* OR "Cell phone\*" OR "Mobile Phone\*" OR "Mobile us\*\*" OR "Media time" OR "Media us\*\*" OR "handheld device\*\*" OR "game device\*\*" OR "gaming device\*\*" OR "game console\*\*" OR "gaming console\*\*" OR "electronic media" OR smartphone\* OR "smart phone\*\*") **OR AB** (Television OR TV OR "Screen viewing" OR Screen time OR Screen exposure OR Computer\* OR Video gam\* OR Sedentary OR Inactivity OR "E gam\*" OR e-gam\* OR Tablet\* OR "Cell phone\*" OR "Mobile Phone\*" OR "Mobile us\*\*" OR "Media time" OR "Media us\*\*" OR "handheld device\*\*" OR "game device\*\*" OR "gaming device\*\*" OR "game console\*\*" OR "gaming console\*\*" OR "electronic media" OR smartphone\* OR "smart phone\*\*")) **AND** (TI (Review OR meta-analysis OR "meta analysis" OR meta-regression OR "meta regression" OR synthesis OR meta-synthesis OR "meta synthesis"))

**Version 1** = above

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## CINAHL Search Strategy

((MH ("child" OR "Minors (Legal)" OR "pediatrics" OR "Infant")) **OR** TI ("boy\*" OR "child\*" OR "girl\*" OR "kindergarten" OR "paediatric" OR "pediatric" OR "infan\*" OR "baby" OR "babies" OR "toddler\*" OR "young child\*\*" OR "early childhood" OR "early years" OR "pre-school\*\*" OR "preschool\*" OR "pre school\*" OR "school age\*\*" OR "school-age\*\*" OR "adolescen\*\*" OR "youth\*" OR "young pe\*" OR teen\* OR "preadolescen\*\*") **OR AB** ("boy\*" OR "child\*" OR "girl\*" OR "kindergarten" OR "paediatric" OR "pediatric" OR "infan\*" OR "baby" OR "babies" OR "toddler\*" OR "young child\*\*" OR "early childhood" OR "early years" OR "pre-school\*\*" OR "preschool\*" OR "pre school\*" OR "school age\*\*" OR "school-age\*\*" OR "adolescen\*\*" OR "youth\*" OR "young pe\*" OR teen\* OR "preadolescen\*\*")) **AND** (MH ("television" OR "computers" OR "video games" OR "lifestyle, sedentary" OR "smartphone" OR "cellular phone" OR "computers, hand-held") **OR** TI ("Television" OR "TV" OR "Screen viewing" OR "Screen time" OR "Screen exposure" OR "Computer\*" OR "Video gam\*" OR "Sedentary" OR "Inactivity" OR "E gam\*" OR "e-gam\*" OR "Tablet\*\*" OR "Cell phone\*" OR "Mobile Phone\*" OR "Mobile us\*" OR "Media time" OR "Media us\*" OR "handheld device\*\*" OR "game device\*\*" OR "gaming device\*\*" OR "game console\*\*" OR "gaming console\*\*" OR "electronic media" OR "smartphone\*\*" OR "smart phone\*\*") **OR AB** ("Television" OR "TV" OR "Screen viewing" OR "Screen time" OR "Screen exposure" OR "Computer\*\*" OR "Video gam\*" OR "Sedentary" OR "Inactivity" OR "E gam\*" OR "e-gam\*\*" OR "Tablet\*\*" OR "Cell phone\*\*" OR "Mobile Phone\*\*" OR "Mobile us\*\*" OR "Media time" OR "Media us\*\*" OR "handheld device\*\*" OR "game device\*\*" OR "gaming device\*\*" OR "game console\*\*" OR "gaming console\*\*" OR "electronic media" OR "smartphone\*\*" OR "smart phone\*\*")) **AND** (TI("Review" OR "meta-analysis" OR "meta analysis" OR "meta-regression" OR "meta regression" OR "synthesis" OR "meta-synthesis" OR "meta synthesis"))

## PsycINFO Search Strategy

((MA("pediatrics")) **OR** (TI (boy\* OR girl\* OR kindergarten OR paediatric OR pediatric OR infan\* OR baby OR babies OR toddler\* OR "young child\*\*" OR child\* OR "early childhood" OR "early years" OR

pre-school\* OR preschool\* OR pre school\* OR school age\* OR school-age\* OR adolescen\* OR youth\* OR young pe\* OR teen\* OR preadolescen\*)) **OR** (AB (boy\* OR girl\* OR kindergarten OR paediatric OR pediatric OR infan\* OR baby OR babies OR toddler\* OR "young child\*\*" OR child\* OR "early childhood" OR "early years" OR pre-school\* OR preschool\* OR pre school\* OR school age\* OR school-age\* OR adolescen\* OR youth\* OR young pe\* OR teen\* OR preadolescen\*)) **OR** (KW (boy\* OR OR girl\* OR kindergarten OR paediatric OR pediatric OR infan\* OR baby OR babies OR toddler\* OR "young child\*\*" OR child\* OR "early childhood" OR "early years" OR pre-school\* OR preschool\* OR pre school\* OR school age\* OR school-age\* OR adolescen\* OR youth\* OR young pe\* OR teen\* OR preadolescen\*)) **AND** ((MA("Television" OR "Television Viewing" OR "Screen Time" OR "Mobile Devices" OR "Sedentary behavior" OR "computers" OR "computer games" OR "cellular phones")) **OR** (TI(Television OR TV OR Screen viewing OR Screen time OR Screen exposure OR Computer\* OR Video gam\* OR Sedentary OR Inactivity OR E gam\* OR e-gam\* OR Tablet\* OR Cell phone\* OR Mobile Phone\* OR Mobile us\* OR Media time OR Media us\* OR handheld device\* OR game device\* OR gaming device\* OR game console\* OR gaming console\* OR electronic media OR smartphone\* OR smart phone\*)) **OR** (AB(Television OR TV OR Screen viewing OR Screen time OR Screen exposure OR Computer\* OR Video gam\* OR Sedentary OR Inactivity OR E gam\* OR e-gam\* OR Tablet\* OR Cell phone\* OR Mobile Phone\* OR Mobile us\* OR Media time OR Media us\* OR handheld device\* OR game device\* OR gaming device\* OR game console\* OR gaming console\* OR electronic media OR smartphone\* OR smart phone\*)) **OR** (KW(Television OR TV OR Screen viewing OR Screen time OR Screen exposure OR Computer\* OR Video gam\* OR Sedentary OR Inactivity OR E gam\* OR e-gam\* OR Tablet\* OR Cell phone\* OR Mobile Phone\* OR Mobile us\* OR Media time OR Media us\* OR handheld device\* OR game device\* OR gaming device\* OR game console\* OR gaming console\* OR electronic media OR smartphone\* OR smart phone\*)) **AND** (TI(Review OR systematic review OR meta-analysis OR meta-regression OR synthesis OR meta-synthesis OR "meta analysis" OR "meta regression" OR "meta synthesis")))

## SPORTDiscus search strategy

((SU ("infant" OR "children" OR "school children" OR "pediatrics" OR "youth" OR "teenagers\*\*"))**OR** (TI (boy\* OR girl\* OR kindergarten OR paediatric OR pediatric OR infan\* OR baby OR babies OR toddler\* OR "young child\*\*" OR child\* OR "early childhood" OR "early years" OR pre-school\* OR preschool\* OR pre school\* OR school age\* OR school-age\* OR adolescen\* OR youth\* OR young pe\* OR teen\* OR preadolescen\*)) **OR** (AB (boy\* OR girl\* OR kindergarten OR paediatric OR pediatric OR infan\* OR baby OR babies OR toddler\* OR "young child\*\*" OR child\* OR "early childhood" OR "early years" OR pre-school\* OR preschool\* OR pre school\* OR school age\* OR school-age\* OR adolescen\* OR youth\* OR young pe\* OR teen\* OR preadolescen\*)) **OR** (KW (boy\* OR girl\* OR kindergarten OR paediatric OR pediatric OR infan\* OR baby OR babies OR toddler\* OR "young child\*\*" OR child\* OR "early childhood" OR "early years" OR pre-school\* OR preschool\* OR pre school\* OR school age\* OR school-age\* OR adolescen\* OR youth\* OR young pe\* OR teen\* OR preadolescen\*)) **AND** ((SU ("Video games" OR "SEDENTARY behavior in children" OR "SEDENTARY lifestyles" OR "COMPUTER games")) **OR** (TI (Television OR TV OR Screen viewing OR Screen time OR Screen exposure OR Computer\* OR Video gam\* OR Sedentary OR Inactivity OR E gam\* OR e-gam\* OR Tablet\* OR Cell phone\* OR Mobile Phone\* OR Mobile us\* OR Media time OR Media us\* OR handheld device\* OR game device\* OR gaming device\* OR

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## Education Source Search Strategy

((SU (Children OR Youth OR adolescence)) **OR** (TI (boy\* OR child\* OR girl\* OR kindergarten OR paediatric OR pediatric OR infan\* OR baby OR babies OR toddler\* OR "young child\*" OR child\* OR "early childhood" OR "early years" OR pre-school\* OR preschool\* OR "pre school\*" OR "school age\*" OR "school-age\*" OR adolescen\* OR youth\* OR "young pe\*" OR teen\* OR preadolescen\*))) **OR** (AB (boy\* OR child\* OR girl\* OR kindergarten OR paediatric OR pediatric OR infan\* OR baby OR babies OR toddler\* OR "young child\*" OR child\* OR "early childhood" OR "early years" OR pre-school\* OR preschool\* OR "pre school\*" OR "school age\*" OR "school-age\*" OR adolescen\* OR youth\* OR "young pe\*" OR teen\* OR preadolescen\*))) **OR** (KW (boy\* OR child\* OR girl\* OR kindergarten OR paediatric OR pediatric OR infan\* OR baby OR babies OR toddler\* OR "young child\*" OR child\* OR "early childhood" OR "early years" OR pre-school\* OR preschool\* OR "pre school\*" OR "school age\*" OR "school-age\*" OR adolescen\* OR youth\* OR "young pe\*" OR teen\* OR preadolescen\*))) **AND** ((SU (computers OR video games)) **OR** (TI (Television OR TV OR "Screen viewing" OR "Screen time" OR "Screen exposure" OR Computer\* OR "Video gam\*" OR Sedentary OR Inactivity OR "E gam\*" OR "e-gam\*" OR Tablet\* OR "Cell phone\*" OR "Mobile Phone\*" OR "Mobile us\*" OR "Media time" OR "Media us\*" OR "handheld device\*" OR "game device\*" OR "gaming device\*" OR "game console\*" OR "electronic media" OR smartphone\* OR "smart phone\*")) **OR** (AB (Television OR TV OR "Screen viewing" OR "Screen time" OR "Screen exposure" OR Computer\* OR "Video gam\*" OR Sedentary OR Inactivity OR "E gam\*" OR "e-gam\*" OR Tablet\* OR "Cell phone\*" OR "Mobile Phone\*" OR "Mobile us\*" OR "Media time" OR "Media us\*" OR "handheld device\*" OR "game device\*" OR "gaming device\*" OR "game console\*" OR "electronic media" OR smartphone\* OR "smart phone\*")) **OR** (KW (Television OR TV OR "Screen viewing" OR "Screen time" OR "Screen exposure" OR Computer\* OR "Video gam\*" OR Sedentary OR Inactivity OR "E gam\*" OR "e-gam\*" OR Tablet\* OR "Cell phone\*" OR "Mobile Phone\*" OR "Mobile us\*" OR "Media time" OR "Media us\*" OR "handheld device\*" OR "game device\*" OR "gaming device\*" OR "game console\*" OR "electronic media" OR smartphone\* OR "smart phone\*"))) **AND** (TI(Review OR "meta-analysis" OR "meta analysis" OR "meta-regression" OR "meta regression" OR synthesis OR "meta-synthesis" OR "meta synthesis"))

**Version 1=** as above

**Version 2 =** delete terms following final "AND", limit results "Review" after search

## Embase Search Strategy

(child or pediatrics or adolescent or "minor (person)").sh. **OR** (boy\* or girl\* or kindergarten or paediatric or pediatric or infan\* or baby or babies or toddler\* or young child\* or child or early childhood or early

years or pre-school\* or preschool\* or pre school\* or school age\* or school-age\* or adolescen\* or youth\* or young pe\* or teen\* or preadolescen\*).ti,ab,kw.

**AND**

(television or computer or video game or sedentary lifestyle or smartphone or mobile phone or television viewing).sh. **OR** (Television or TV or Screen viewing or Screen time or Screen exposure or Computer\* or Video gam\* or Sedentary or Inactivity or E gam\* or e-gam\* or Tablet\* or Cell phone\* or Mobile Phone\* or Mobile us\* or Media time or Media us\* or handheld device\* or game device\* or gaming device\* or game console\* or gaming console\* or electronic media or smartphone\* or smart phone\*).ti,ab,kw.

**AND**

(Review or meta?analysis or meta?regression or synthesis or meta?synthesis).ti. **OR** (review).pt.

**Note:** Run each block of searches separately and then combine with AND afterwards. A single, combined search generates an error message.

## Cochrane Search Strategy

((minor\* OR "school age population" OR boy\* OR child\* OR girl\* OR kindergarten OR paediatric OR pediatric OR infan\* OR baby OR babies OR "young child\*" OR "early childhood" OR "early years" OR pre-school\* OR preschool\* OR pre school\* OR school age\* OR school-age\* OR toddler\* OR adolescen\* OR youth\* OR young pe\* OR teen\* OR preadolescen\*):ti,ab,kw **OR** MESH(child OR minors OR school age population OR pediatrics OR adolescent)) **AND** ((television OR computers OR "video games" OR "sedentary lifestyle" OR smartphone OR "cell phones" OR TV OR "Screen viewing" OR "Screen time" OR "Screen exposure" OR Computer\* OR "Video gam\*" OR "Sedentary" OR Inactivity OR "E gam\*" OR e-gam\* OR Tablet\* OR "Cell phone\*" OR "Mobile Phone\*" OR "Mobile us\*" OR "Media time" OR "Media us\*" OR "handheld device\*" OR "game device\*" OR "gaming device\*" OR "game console\*" OR "gaming console\*" OR "electronic media" OR smartphone\* OR "smart phone\*"):ti,ab,kw **OR** MESH (television OR computers OR video games OR sedentary lifestyle OR smartphone OR cell phones OR computers, handheld)) **AND** ((Review OR "meta analysis" OR "meta regression" OR synthesis OR "meta synthesis"):ti)

**Version 1:** as above

**Version 2:** Delete terms after final 'AND' and restrict results to reviews using Cochrane's tagging of studies.

## Scopus Search Strategy

**Version 1:**

(TITLE-ABS-KEY(minor\* OR "school age population" OR boy\* OR girl\* OR kindergarten OR paediatric OR pediatric OR infan\* OR baby OR babies OR toddler\* OR "young child\*" OR child\* OR "early childhood" OR "early years" OR pre-school\* OR preschool\* OR pre school\* OR school age\* OR "school-age\*" OR adolescen\* OR youth\* OR "young pe\*" OR teen\* OR preadolescen\*)) **AND** (TITLE-ABS-KEY(television OR computers OR "video games" OR "sedentary lifestyle" OR smartphone OR "cell phones" OR TV OR "Screen viewing" OR "Screen time" OR "Screen exposure" OR Computer\* OR "Video gam\*" OR "Sedentary" OR Inactivity OR "E gam\*" OR e-gam\* OR Tablet\* OR "Cell phone\*" OR "Mobile Phone\*" OR "Mobile us\*" OR "Media time" OR "Media us\*" OR "handheld device\*" OR "game device\*" OR "gaming device\*" OR "game console\*" OR "gaming console\*" OR "electronic media" OR smartphone\* OR "smart phone\*")) **AND** (TITLE(Review OR "meta analysis" OR "meta-analysis" OR "meta-regression" OR "meta regression" OR synthesis OR "meta synthesis" OR "meta-synthesis"))

**Version 2:**

( TITLE-ABS-KEY ( minor\* OR "school age population" OR boy\* OR girl\* OR kindergarten OR paediatric OR pediatric OR infan\* OR baby OR babies OR toddler\* OR "young child\*" OR child\* OR "early childhood" OR "early years" OR pre-school\* OR preschool\* OR pre AND school\* OR school AND age\* OR "school-age\*" OR adolescen\* OR youth\* OR "young pe\*" OR teen\* OR preadolescen\* ) ) **AND** ( TITLE-ABS-KEY ( television OR computers OR "video games" OR "sedentary lifestyle" OR smartphone OR "cell phones" OR tv OR "Screen viewing" OR "Screen time" OR "Screen exposure" OR computer\* OR "Video gam\*" OR "Sedentary" OR inactivity OR "E gam\*" OR e-gam\* OR tablet\* OR "Cell phone\*" OR "Mobile Phone\*" OR "Mobile us\*" OR "Media time" OR "Media us\*" OR "handheld device\*" OR "game device\*" OR "gaming device\*" OR "game console\*" OR "gaming console\*" OR "electronic media" OR smartphone\* OR "smart phone\*") ) **AND** ( LIMIT-TO ( DOCTYPE , "re" ) )

## Web of Science Search Strategy

(TS= ("boy\*" OR "girl\*" OR "kindergarten" OR "paediatric" OR "pediatric" OR "infan\*" OR "baby" OR "babies" OR "toddler\*" OR "young child\*" OR "child\*" OR "early childhood" OR "early years" OR "pre-school\*" OR "preschool\*" OR "pre school\*" OR "school age\*" OR "school-age\*" OR "adolescen\*" OR "youth\*" OR "young pe\*" OR "teen\*" OR "pre#adolescen\*") **AND** (TS= ("Television" OR "TV" OR "Screen viewing" OR "Screen time" OR "Screen exposure" OR "Computer\*" OR "Video gam\*" OR "Sedentary" OR "Inactivity" OR "E gam\*" OR "e-gam\*" OR "Tablet\*" OR "Cell phone\*" OR "Mobile Phone\*" OR "Mobile us\*" OR "Media time" OR "Media us\*" OR "handheld device\*" OR "game device\*" OR "gaming device\*" OR "game console\*" OR "gaming console\*" OR "electronic media" OR "smartphone\*" OR "smart phone\*") ) **AND** (TI= ("Review" OR "systematic review" OR "meta-analysis" OR "meta analysis" OR "meta-regression" OR "meta-regression" OR "synthesis" OR "meta-synthesis" OR "meta synthesis"))

# ProQuest Social Science Premium Collection Search Strategy

((su(Children OR babies OR boys OR girls OR preschool children OR teenagers OR adolescents OR pediatrics)) **OR** (ab(boy\* OR child\* OR girl\* OR kindergarten OR paediatric OR pediatric OR infan\* OR baby OR babies OR toddler\* OR young child\* OR early childhood OR early years OR pre-school\* OR preschool\* OR school age\* OR school-age\* OR adolescen\* OR youth\* OR young pe\* OR teen\* OR pre-adolescen\*)) **OR** (ti(boy\* OR child\* OR girl\* OR kindergarten OR paediatric OR pediatric OR infan\* OR baby OR babies OR toddler\* OR young child\* OR early childhood OR early years OR pre-school\* OR preschool\* OR school age\* OR school-age\* OR adolescen\* OR youth\* OR young pe\* OR teen\* OR pre-adolescen\*))) **AND** ((SU(television OR computers OR video games OR mobile phone)) **OR** (ab(Television OR TV OR Screen viewing OR Screen time OR Screen exposure OR Computer\* OR Video gam\* OR Sedentary OR Inactivity OR E gam\* OR e-gam\* OR Tablet\* OR Cell phone\* OR Mobile Phone\* OR Mobile us\* OR Media time OR Media us\* OR handheld device\* OR game device\* OR gaming device\* OR game console\* OR gaming console\* OR electronic media OR smartphone\* OR smart phone\*)) **OR** (ti(Television OR TV OR Screen viewing OR Screen time OR Screen exposure OR Computer\* OR Video gam\* OR Sedentary OR Inactivity OR E gam\* OR e-gam\* OR Tablet\* OR Cell phone\* OR Mobile Phone\* OR Mobile us\* OR Media time OR Media us\* OR handheld device\* OR game device\* OR gaming device\* OR game console\* OR gaming console\* OR electronic media OR smartphone\* OR smart phone\*))) **AND** (TI(review OR meta-analysis OR meta-regression OR synthesis OR meta-synthesis OR meta analysis OR meta regression OR meta synthesis))

## ERIC Search Strategy

((SU(child) OR SU(youth) OR SU(minor) OR SU(adolescent) OR SU(school) OR SU(pediatrics)) **OR** (AB, TI(minor\*) OR AB, TI("school age population") OR AB, TI(boy\*) OR AB, TI(child\*) OR AB, TI(girl\*) OR AB, TI(kindergarten) OR AB, TI(paediatric) OR AB, TI(pediatric) OR AB, TI(infan\*) OR AB, TI(baby) OR AB, TI(babies) OR AB, TI(toddler\*) OR AB, TI("young child\*") OR AB, TI("early childhood") OR AB, TI("early years") OR AB, TI(pre-school\*) OR AB, TI(preschool\*) OR AB, TI("pre school\*") OR AB, TI("school age\*") OR AB, TI(school-age\*) OR AB, TI(adolescen\*) OR AB, TI(youth\*) OR AB, TI("young pe\*") OR AB, TI(teen\*) OR AB, TI(preadolescen\*))) **AND** ((SU(television) OR SU(computers) OR SU(video games) OR SU(sedentary lifestyle) OR SU(cell phone) OR SU(mobile phone)) **OR** (AB, TI(television) OR AB, TI(computers) OR AB, TI("video games") OR AB, TI("sedentary lifestyle") OR AB, TI(smartphone) OR AB, TI("cell phones") OR AB, TI(TV) OR AB, TI("Screen viewing") OR AB, TI("Screen time") OR AB, TI("Screen exposure") OR AB, TI(Computer\*) OR AB, TI("Video gam\*") OR AB, TI("Sedentary") OR AB, TI(Inactivity) OR AB, TI("E gam\*") OR AB, TI(e-gam\*) OR AB, TI(Tablet\*) OR AB, TI("Cell phone\*") OR AB, TI("Mobile Phone\*") OR AB, TI("Mobile us\*") OR AB, TI("Media time") OR AB, TI("Media us\*") OR AB, TI("handheld device\*") OR AB, TI("game device\*") OR AB, TI("gaming device\*") OR AB, TI("game console\*") OR AB, TI("gaming console\*") OR AB, TI("electronic media") OR AB, TI(smartphone\*) OR AB, TI("smart phone\*"))) **AND**

(TI(Review) OR TI("meta analysis") OR TI("meta regression") OR TI(synthesis) OR TI("meta synthesis") OR  
TI("meta-analysis") OR TI("meta-regression") OR TI("meta-synthesis"))

## Supplementary File 10 - Effect Size Codebook

**Description:** Generated codebook for the dataset.

# Codebook for the Complete Effects Data

Autogenerated data summary from dataReporter

2023-07-20 11:51:25.935396

## Data report overview

The dataset examined has the following dimensions:

Feature	Result
Number of observations	451
Number of variables	32

## Variable list

### **author\_year**

*First author and publication year of meta-analysis.*

Feature	Result
Variable type	character
Number of missing obs.	0 (0 %)
Number of unique values	134
Mode	"Oh, 2022"

---

### **outcome\_category**

*Category the outcome belongs to.*

Feature	Result
Variable type	character
Number of missing obs.	1 (0.22 %)
Number of unique values	4
Mode	"education"

---

### **plain\_language\_outcome**

*Specific outcome for the effect.*

Feature	Result
Variable type	character

Feature	Result
Number of missing obs.	0 (0 %)
Number of unique values	140
Mode	"Learning: General"

---

## plain\_language\_exposure

*Specific exposure for the effect.*

Feature	Result
Variable type	character
Number of missing obs.	0 (0 %)
Number of unique values	92
Mode	"Screen use: General"

---

## age\_group

*Broad age group of the participants, if specified.*

Feature	Result
Variable type	character
Number of missing obs.	0 (0 %)
Number of unique values	4
Mode	"Mixed"

---

## original\_effect\_size\_metric

*Type of effect size original\_effect\_size refers to.*

Feature	Result
Variable type	character
Number of missing obs.	6 (1.33 %)
Number of unique values	7
Mode	"d"

---

## original\_effect\_size

*Effect size reported in the original meta-analysis.*

Feature	Result
Variable type	numeric
Number of missing obs.	0 (0 %)

---

Feature	Result
Number of unique values	285
Median	0.22
1st and 3rd quartiles	0.01; 0.68
Min. and max.	-788.59; 1185

---

## **original\_cilb**

*Lower bound for the 95% confidence interval of the reported effect size.*

Feature	Result
Variable type	numeric
Number of missing obs.	19 (4.21 %)
Number of unique values	265
Median	0.05
1st and 3rd quartiles	-0.15; 0.35
Min. and max.	-2146.87; 303

---

## **original\_ciub**

*Upper bound for the 95% confidence interval of the reported effect size.*

Feature	Result
Variable type	numeric
Number of missing obs.	19 (4.21 %)
Number of unique values	289
Median	0.44
1st and 3rd quartiles	0.12; 1.2
Min. and max.	-5.68; 2068

---

## **original\_k**

*Number of studies reported as contributing to the reported effect size.*

Feature	Result
Variable type	numeric
Number of missing obs.	14 (3.1 %)
Number of unique values	52
Median	7
1st and 3rd quartiles	4; 12
Min. and max.	1; 274

---

## **original\_n**

*Number of participants reported as contributing to the reported effect size.*

Feature	Result
Variable type	numeric
Number of missing obs.	0 (0 %)
Number of unique values	422
Median	1836
1st and 3rd quartiles	639.5; 7389
Min. and max.	3; 527696

## **original\_i2**

*Reported heterogeneity (as I-Squared) for the reported effect size.*

Feature	Result
Variable type	numeric
Number of missing obs.	157 (34.81 %)
Number of unique values	198
Median	67.28
1st and 3rd quartiles	24.1; 82.85
Min. and max.	0; 99.8

## **converted\_r**

*Effect size as converted to Pearson's r (where possible).*

Feature	Result
Variable type	numeric
Number of missing obs.	199 (44.12 %)
Number of unique values	177
Median	0.1
1st and 3rd quartiles	-0.02; 0.2
Min. and max.	-0.26; 0.82

## **converted\_cilb**

*Lower bound for the 95% confidence interval of the converted effect size.*

Feature	Result
Variable type	numeric
Number of missing obs.	208 (46.12 %)
Number of unique values	179
Median	0.02
1st and 3rd quartiles	-0.11; 0.09

---

Feature	Result
Min. and max.	-0.54; 0.76

---

## **converted\_ciub**

*Upper bound for the 95% confidence interval of the converted effect size.*

Feature	Result
Variable type	numeric
Number of missing obs.	208 (46.12 %)
Number of unique values	193
Median	0.19
1st and 3rd quartiles	0.06; 0.3
Min. and max.	-0.2; 0.87

---

## **reanalysis\_estimate**

*Effect size from the reanalysis of the study-level data (where possible).*

Feature	Result
Variable type	numeric
Number of missing obs.	204 (45.23 %)
Number of unique values	244
Median	0.08
1st and 3rd quartiles	-0.04; 0.18
Min. and max.	-0.47; 0.61

---

## **reanalysis\_cilb**

*Lower bound for the 95% confidence interval of the reanalysed effect size.*

Feature	Result
Variable type	numeric
Number of missing obs.	204 (45.23 %)
Number of unique values	244
Median	-0.01
1st and 3rd quartiles	-0.16; 0.06
Min. and max.	-0.67; 0.45

---

## **reanalysis\_ciub**

*Upper bound for the 95% confidence interval of the reanalysed effect size.*

Feature	Result
Variable type	numeric
Number of missing obs.	204 (45.23 %)
Number of unique values	244
Median	0.16
1st and 3rd quartiles	0.05; 0.29
Min. and max.	-0.35; 0.79

## **reanalysis\_cilb999**

*Lower bound for the 99.9% confidence interval of the reanalysed effect size.*

Feature	Result
Variable type	numeric
Number of missing obs.	204 (45.23 %)
Number of unique values	244
Median	-0.1
1st and 3rd quartiles	-0.22; 0.01
Min. and max.	-1; 0.35

## **reanalysis\_ciub999**

*Upper bound for the 99.9% confidence interval of the reanalysed effect size.*

Feature	Result
Variable type	numeric
Number of missing obs.	204 (45.23 %)
Number of unique values	244
Median	0.22
1st and 3rd quartiles	0.1; 0.39
Min. and max.	-0.27; 1

## **reanalysis\_k**

*Number of studies contributing to the reanalysed effect size.*

Feature	Result
Variable type	integer
Number of missing obs.	204 (45.23 %)
Number of unique values	48
Median	7
1st and 3rd quartiles	4; 12.5

---

Feature	Result
Min. and max.	1; 122

---

## reanalysis\_n

*Number of participants contributing to the reanalysed effect size.*

Feature	Result
Variable type	numeric
Number of missing obs.	204 (45.23 %)
Number of unique values	234
Median	1836
1st and 3rd quartiles	687.5; 5611.5
Min. and max.	26; 527696

---

## reanalysis\_i2

*Heterogeneity (as I-Squared) for the reanalysed effect size.*

Feature	Result
Variable type	numeric
Number of missing obs.	204 (45.23 %)
Number of unique values	199
Median	73.94
1st and 3rd quartiles	26.23; 88.62
Min. and max.	0; 99.51

---

## reanalysis\_eggers\_p

*P-value for the Egger's test for publication bias.*

Feature	Result
Variable type	numeric
Number of missing obs.	365 (80.93 %)
Number of unique values	86
Median	0.22
1st and 3rd quartiles	0.03; 0.51
Min. and max.	0; 0.98

---

## **reanalysis\_eggers\_cilb**

*Lower bound for the 95% confidence interval for the Egger's test for publication bias.*

Feature	Result
Variable type	numeric
Number of missing obs.	365 (80.93 %)
Number of unique values	86
Median	-0.05
1st and 3rd quartiles	-0.19; 0.1
Min. and max.	-2.05; 0.65

## **reanalysis\_eggers\_ciub**

*Upper bound for the 95% confidence interval for the Egger's test for publication bias.*

Feature	Result
Variable type	numeric
Number of missing obs.	365 (80.93 %)
Number of unique values	86
Median	0.29
1st and 3rd quartiles	0.1; 0.65
Min. and max.	-0.96; 1.56

## **reanalysis\_tes\_obsr**

*Number of observed significant tests (from Test of Excess Significance).*

Feature	Result
Variable type	integer
Number of missing obs.	204 (45.23 %)
Number of unique values	32
Median	3
1st and 3rd quartiles	1; 6
Min. and max.	0; 110

## **reanalysis\_tes\_expect**

*Number of expected significant tests (from Test of Excess Significance).*

Feature	Result
Variable type	numeric
Number of missing obs.	204 (45.23 %)
Number of unique values	244
Median	3.21
1st and 3rd quartiles	1.62; 6.67

Feature	Result
Min. and max.	0.05; 108.26

---

### **reanalysis\_tes\_ratio**

*Ratio of observed to expected significant tests (from Test of Excess Significance).*

Feature	Result
Variable type	numeric
Number of missing obs.	204 (45.23 %)
Number of unique values	219
Median	0.91
1st and 3rd quartiles	0.57; 1.09
Min. and max.	0; 2.9

---

### **reanalysis\_tes\_p**

*P-value for the Test of Excess Significance.*

Feature	Result
Variable type	numeric
Number of missing obs.	204 (45.23 %)
Number of unique values	222
Median	0.8
1st and 3rd quartiles	0.58; 0.95
Min. and max.	0.01; 1

---

### **reanalysis\_tes\_power**

*Power for each of the tests (from the Test of Excess Significance).*

Feature	Result
Variable type	character
Number of missing obs.	204 (45.23 %)
Number of unique values	244
Mode	"0.793; 0.52; 0.463"

---

### **reanalysis\_tes\_theta**

*Value of theta used to compute the tests (from the Test of Excess Significance).*

Feature	Result
Variable type	numeric
Number of missing obs.	204 (45.23 %)
Number of unique values	244
Median	0.08
1st and 3rd quartiles	-0.04; 0.18
Min. and max.	-0.47; 0.61

Report generation information:

- Created by: Taren Sanders (username: taren).
- Report creation time: Thu Jul 20 2023 11:51:26
- Report was run from directory: /home/taren/GitHub/screen\_umbrella
- dataReporter v1.0.2 [Pkg: 2021-11-11 from CRAN (R 4.3.0)]
- R version 4.3.0 (2023-04-21).
- Platform: x86\_64-pc-linux-gnu (64-bit)(Australia/Sydney).
- Function call: 

```
dataReporter::makeDataReport(data = out_effects, output = "pdf", mode = "summarize", smartNum = FALSE, file = "supplementary_files/codebook.Rmd", replace = TRUE, openResult = FALSE, checks = list(character = "showAllFactorLevels", factor = "showAllFactorLevels", labelled = "showAllFactorLevels", haven_labelled = "showAllFactorLevels", numeric = NULL, integer = NULL, logical = NULL, Date = NULL), listChecks = FALSE, maxProbVals = Inf, addSummaryTable = FALSE, codebook = TRUE, reportTitle = "Codebook for the Complete Effects Data")
```

## Supplementary File 11 - PRISMA Checklist

**Description:** Completed PRISMA Checklist.



## PRISMA 2020 Checklist

Section and Topic	Item #	Checklist item	Location where item is reported
<b>TITLE</b>			
Title	1	Identify the report as a systematic review.	Title
<b>ABSTRACT</b>			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	Abstract
<b>INTRODUCTION</b>			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	Pg 6-7
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	Ln120-124
<b>METHODS</b>			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	Ln131-166
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	Ln167-174
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	Supp File 1
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	Ln177-180
Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	Ln181-182
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	Ln183-187, Ln 193-199
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	Ln183-187
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	Ln188-192
Effect measures	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	Ln196
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	Ln 200-204
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	Ln196, Ln205-207
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	Ln200-204
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	Ln205-216
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	Ln209-211
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	N/A
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	Ln211-213
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	Ln217-231



## PRISMA 2020 Checklist

Section and Topic	Item #	Checklist item	Location where item is reported
<b>RESULTS</b>			
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	Figure 1
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	N/A
Study characteristics	17	Cite each included study and present its characteristics.	Table 1 & Supp File 7
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	Available on OSF
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	Figs2&3, Supp 5&6
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	See OSF and Figures
	20b	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	Figs2&3, Ln278-297, Ln307-322
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	N/A
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	N/A
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	Supp File 2
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	N/A
<b>DISCUSSION</b>			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	Ln330-359
	23b	Discuss any limitations of the evidence included in the review.	Ln360-373
	23c	Discuss any limitations of the review processes used.	Ln419-430
	23d	Discuss implications of the results for practice, policy, and future research.	Ln374-396
<b>OTHER INFORMATION</b>			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	Ln129
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	Ln129
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	Ln232-243
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	N/A (unfunded)
Competing interests	26	Declare any competing interests of review authors.	Provided to editor
Availability of data, code and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	Provided to editor

From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n71

For more information, visit: <http://www.prisma-statement.org/>

## Supplementary File 12 - PRISMA Abstract Checklist

**Description:** Completed PRISMA Abstract Checklist.



## PRISMA 2020 for Abstracts Checklist

Section and Topic	Item #	Checklist item	Reported (Yes/No)
<b>TITLE</b>			
Title	1	Identify the report as a systematic review.	Yes
<b>BACKGROUND</b>			
Objectives	2	Provide an explicit statement of the main objective(s) or question(s) the review addresses.	Yes
<b>METHODS</b>			
Eligibility criteria	3	Specify the inclusion and exclusion criteria for the review.	Yes
Information sources	4	Specify the information sources (e.g. databases, registers) used to identify studies and the date when each was last searched.	No
Risk of bias	5	Specify the methods used to assess risk of bias in the included studies.	No
Synthesis of results	6	Specify the methods used to present and synthesise results.	No
<b>RESULTS</b>			
Included studies	7	Give the total number of included studies and participants and summarise relevant characteristics of studies.	Yes
Synthesis of results	8	Present results for main outcomes, preferably indicating the number of included studies and participants for each. If meta-analysis was done, report the summary estimate and confidence/credible interval. If comparing groups, indicate the direction of the effect (i.e. which group is favoured).	Yes
<b>DISCUSSION</b>			
Limitations of evidence	9	Provide a brief summary of the limitations of the evidence included in the review (e.g. study risk of bias, inconsistency and imprecision).	No
Interpretation	10	Provide a general interpretation of the results and important implications.	Yes
<b>OTHER</b>			
Funding	11	Specify the primary source of funding for the review.	N/A
Registration	12	Provide the register name and registration number.	Yes

From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n71

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