| Review Chara Review chara First Author  | cteristio   | cteristics<br>cs and quality assess<br>Design<br>Restrictions   |   | ses providing                                   |   |   | stics for studies providing  |   | Exposures Assessed   | Elig.<br>Crit. <sup>3</sup> | Lit.<br>Search | Dual                   | Dual<br>Qual.6 | Studie: |        | Hetero |
|---|---|---|---|---|---|---|--|---|--|-----------------------------|----------------|------------------------|----------------|---------|--------|--------|
| Abrami  | 2020  | Include:<br>Experimental<br>designs   | None specified  | 2009–<br>2019                                   | School-age<br>Children<br>(Early<br>Primary,<br>Elementary)   | • | Literacy: Listening comprehension Literacy: Phonics Literacy: Phonomic awareness Literacy: Reading comprehension Literacy: Reading fluency Literacy: Vocabulary knowledge                            | • | Intervention: Literacy<br>(Abracadabra; in<br>schools)   | L                           | U              | L                      | Н              | L       | L      | L      |
| Adelantado<br>Renau<br>Aghasi   | 2019  | Include: Cross-<br>sectional studies<br>Include:<br>Observational   | None specified  None specified  | 1982–<br>2019<br>2007–<br>2016                  | Children;<br>Adolescents<br>(5.7-18.0)<br>All<br>(14.2-15.8)  | • | Learning: General Literacy: General Numeracy: General  Body composition  Healthy behavior: Selfefficacy Psychological health:  | • | Screen use: General TV programs and movies: General Video games: General Internet use: General   | U                           | L              | L                      | U              | L       | L      | L      |
| Andrade<br>Arztmann   | 2019  | Include: Interventions  None specified  | Include: Overweight/obese   | 2008-   | Children;<br>Adolescents<br>School-age<br>Children<br>(Primary,   | • | Depression Psychological health: Enjoyment Self-perceptions: General Self-perceptions: Self-esteem Learning: Behavior  |   | Video games: Physically active  Video games: Educational (with   | U                           | L              | L                      | U              | L       | Н      | L      |
| Aspiranti  Baradaran Mahdavi  | 2020  | Include: Interventions Include: Observational Exclude:  | Include: Autism spectrum disorder  Exclude: Medical conditions that may increase sedentary  | 2013–<br>2015<br>1999–<br>2019                  | Elementary,<br>Middle<br>School)<br>School-age<br>Children<br>(Primary,<br>Elementary)                          | • | Learning: Motivation  Learning: General  Physical health: Lower back pain  | • | Intervention: Education (via touch screen)  Screen use: General (excluding TV) TV programs and   | U                           | L              | L                      | H              | L       | Н      | L      |
| Bartel  | 2015  | Experimental  | activities  Exclude: Atypical population (except for delayed sleep phase disorder or insomnia)                                    | 2004–<br>2014                                   | Adolescents<br>(12.2-17.7)  | • | Sleep: Bedtime<br>Sleep: Duration<br>Sleep: Time to fall<br>asleep   | • | movies: General  Computer use: General Internet use: General Screen use: General (mobile phone) TV programs and movies: General Video games: General                               | L                           | L              | U                      | U              | L       | U      | U      |
| Beck Silva  Benavides- Varela   | 2022  | Randomised<br>controlled trials<br>and quasi-RCTs.<br>Include:<br>Randomised<br>controlled trials   | Exclude: Any disease Mental disorders  Include: Math difficulties  Include: Regular students, poor readers or dyslexics           | 1999–<br>2019<br>2006–<br>2018<br>1990–<br>2000 | Adolescents  Children  All (5.4-11.5)   | • | Diet: Fat consumption  Numeracy: Mathematics  Literacy: Reading fluency  | • | Intervention: Nutrition (in schools)  Intervention: Mathematics  Intervention: Literacy  | U                           | H              | L                      | H<br>H         | L<br>L  | H<br>L | L      |
| Bossen  | 2020  | Include:<br>Randomised<br>controlled trials   | Exclude: Severe or multiple disabilities  Include: Chronic disease  | 2011–<br>2018                                   | Children<br>(10.0-15.7)   | • | Body composition<br>Cardiometabolic<br>health: Fitness<br>Physical activity:<br>General<br>Physical health:<br>Muscular fitness  | • | Video games: Health<br>promoting content   | U                           | L              | L                      | L              | L       | Н      | L      |
| Boyland<br>Byun   | 2016  | Include:<br>Experimental<br>Include: All<br>quantitative<br>designs   | None specified  None specified  | 2004–<br>2015<br>2006–<br>2014                  | Children;<br>Adolescents<br>(6.0-10.4)<br>School-age<br>Children  | • | Diet: Food intake  Numeracy: General  Cognition: Executive functioning Cognition: Executive  |   | Advertising: Unhealthy food  Video games: Numeracy   | H<br>U                      | U              | U                      | Н              | Н       | Н      | Н      |
| Cao   | 2020  | Include: designs with control groups  | Exclude: Brain damage  Include: Healthy   | 2002–<br>2019                                   | Children<br>(3.4-14.3)<br>Children;   | • | Functioning (cognitive flexibility) Cognition: Executive Functioning (inhibition) Cognition: Executive Functioning (working memory) Sleep: Inadequate duration                                       |   | Computer use: Executive functioning training  Screen use: General  | U                           | Н              | U                      | Н              | L       | L      | L      |
| Carter  |   | quantitative<br>designs<br>Include:   | -   | 2015  | Adolescents<br>(10.6-17.0)  | • | Sleep: Lethargy Sleep: Poor quality  Body composition Diet: Fat consumption Diet: Fruit and vegetable intake Diet: Fruit intake Diet: Sugary drinks and snacks Physical activity:                    |   | (mobile phone at bed time)   | L                           | L              | U                      | L              | L       | Н      | L      |
| Champion  | 2019  | Randomised controlled trials  Include:  | None specified  | 2003–2017                                       | Children<br>(11.4-15.9)   | • | General Physical activity: Moderate-to-vigorous intensity Risky behavior: Alcohol consumption Risky behavior: Smoking Screen time: General   |   | risk behaviour (at<br>school)  | L                           | L              | L                      | L              | L       | L      | L      |
| Chauhan<br>Chen   | 2014  | Experimental; Quasi- experimental Include: pre-post designs with or without control group Include: Experimental designs                       | None specified  None specified  None specified  | 2002–<br>2012<br>2001–<br>2016<br>2008–<br>2019 | School-age<br>Children<br>School-age<br>Children<br>(Primary,<br>Elementary)                                    | • | Numeracy: General  Learning: General  Learning: General  | • | Intervention: Dynamic geometry software  Screen use: General (in schools)  Video games: Educational (with competition)   | U                           | H<br>L         | H<br>U                 | н              | Н       | L<br>L | L      |
| Cheung  Cheung  | 2012  | Include: Randomised controlled trials Include: Experimental; Quasi- experimental Include: experiemental                                       | None specified  None specified  | 1982-<br>2010<br>1980-<br>2010                  | School-age<br>Children<br>School-age<br>Children  | • | Literacy: Reading  Numeracy: General  Learning: Second   | • | Intervention: Reading (in schools)  Intervention: Mathematics (in schools)  Screen use: General (mobile phone for  | U                           | Н              | L<br>H                 | H<br>U<br>H    | H       | L      | L      |
| Claussen  | 2022  | designs with control group  Include: Longitudinal; Retrospective  Include: randomised experimental  | None specified  Exclude: Disabilities   | 2013<br>2004–<br>2018<br>2011–<br>2016          | All   | • | Psychological health: ADHD Psychological health: ADHD Symptoms (Inattention)  Literacy: Reading performance  |   | Screen use: General  Screen use: Reading (vs paper)  | U                           | L              | U                      | Н              | L       | Н      | L      |
| Comeras-<br>Chueca  | 2021  | designs<br>include:<br>randomized and   | Exclude: Disabilities, diseases or disorders, overweight or obese   | 2008–<br>2019                                   | All<br>(4.5-11.6)   | • | Body composition: BMI<br>Cardiometabolic<br>health: Fitness  | • | Video games:<br>Physically active  | L                           | U              | L                      | U              | L       | Н      | L      |
| Comeras-<br>Chueca  | 2021  | Include: randomized and non-randomized controlled with control group with no intervention or traditional exercise intervention                | Include: Overweight and obesity only Exclude: Participants with disabilities, diseases or disorders other than obesity            | 2010–<br>2020                                   | All<br>(8.0-14.0)   | • | Body composition: BMI<br>Body composition: BMI<br>z-score<br>Body composition:<br>Body fat percentage<br>Body composition: Fat-<br>free mass<br>Body composition:<br>Waist circumference             | • | Video games:<br>Physically active  | L                           | L              | L                      | U              | L       | Н      | L      |
| Coyne  Cushing  Darling   | 2010  | None Include: All quantitative designs; Experimental Include: Intervention  | None specified  None specified  None specified  | 1975–<br>2017<br>1989–<br>2009<br>2006–<br>2016 | Children;<br>Adolescents<br>Children;<br>Adolescents<br>Children;<br>Adolescents<br>(8.7-16.0)                  | • | Prosocial Behavior: General  Healthy behavior: General  Body composition Diet: Healthy dietary behaviour Physical activity:  | • | Screen use: Prosocial content  Intervention: Health behaviours  Intervention: To promote health (via mobile phone)   | U<br>U                      | L              | L<br>H                 | H<br>H         | L       | L<br>L | L      |
| de<br>Oliveira<br>Eirich  | 2016  | Include: Observational Include: experimental or observational   | Include: Healthy populations only  Exclude: Non-typically developing children   | 2010-   | (8.7-16.0)  Adolescents  Children (0.5-11.0)  | • | Physical activity: General  Cardiometabolic health: Metabolic Syndrome  Psychological health: Externalizing Psychological health: Internalizing  |   | mobile phone)  Screen use: General  Screen use: General  | L                           | L              | L                      | L              | L       | L      | L      |
| Fang<br>Feng  | 2019  | Include: Cohort;<br>Case-control;<br>Cross-sectional<br>Include:<br>Quantitative<br>designs   | None specified  Include: Healthy children   | 2006–<br>2019<br>2017–<br>2019                  | Children;<br>Adolescents<br>Early<br>childhood;<br>Pre-school   | • | Body composition  Body composition: BMI z-score  Risky behavior: Sexual  | • | Computer use: General<br>Screen use: General<br>TV programs and<br>movies: General<br>Screen use: General<br>(meeting guidelines)  | U                           | L              | L                      | L              | L       | Н      | L      |
| Ferguson Ferguson Folkvord  | 2020  | Include:<br>Experimental,<br>correlational, or<br>longitudinal<br>Include:  | None specified  None specified  None specified  | 2005–<br>2017<br>2009–<br>2013<br>2007–<br>2018 | Children;<br>Adolescents  All (7.8-17.5)  Children; Adolescents   | • | activity Risky behavior: Sexual activity (initiation of sex)  Agression: General  Diet: Food intake  | • | Screen use: Sexual content  Video games: Violent content  Advertising: Advergames  | U<br>L                      | U              | L                      | H<br>L         | L       | L      | L      |
| Foreman   | 2021  | Interventions  Include: observational and intervention studies  Include: experimental or quasi- experimental                                  | None specified  None specified  Exclude: Cochlear implants or autism Autism   | 2015-<br>2020<br>2002-<br>2019                  | Adolescents  All  Early childhood; Pre-school; School-age Children (Early                                       | • | (calories)  Eye health: Myopia  Literacy: Reading comprehension Literacy: Vocabulary learning  | • | Advertising. Advergames  Screen use: General Screen use: General (phone or tablet)  e-Books: General   | U                           | L              | L                      | U              | L       | Н      | L      |
| Gardella<br>Garzón  | 2017  | Include: Cross-sectional  Include: Experimental with control  | •   | 2006-<br>2014                                   |   | • |  | • | Internet use: Cyberbullying victimization Intervention: Augmented reality (in  | U                           | L              | L                      | U              | L       | L      | L      |
| Garzón<br>Ghobadi<br>Graham   | 2019  |   | None specified  None specified  | 2009–<br>2014<br>2004–<br>2011                  | Children;<br>Adolescents<br>School-age<br>Children<br>(Primary,<br>Elementary,<br>Middle                        | • | Body composition  Literacy: Writing  |   | Augmented reality (in schools)  TV programs and movies: Mealtime  Intervention: Writing feedback   | U                           | L              | L                      | U              | L       | L      | L      |
| Haghjoo<br>Hammersley   | 2022  | •   | None specified  Exclude: Those with special needs, require a special diet, or have a condition that would limit physical activity | 2008–<br>2021<br>2003–<br>2013                  |   |   | Body composition:<br>Overweight/obesity<br>Body composition  |   | Screen use: General  Intervention: To promote healthy weight (obesity prevention)  | L                           | H              | U                      | U              | L       | L      | L      |
| Hao<br>Hassan-<br>Saleh   | 2021  | Include: Experimental with control group Include: Experimental; Quasi- experimental Include: Pandomised                                       | physical activity  Exclude: Disabilities  None specified  | 2012–<br>2018<br>2008–<br>2016                  | School-age<br>Children<br>Children;<br>Adolescents  | • | Learning: Second language vocabulary  Literacy: Pronunciation  Physical activity:  | • | Intervention: English as foreign language  Intervention: Pronunciation  Intervention: To promote physical  | U                           | L              | U                      | L<br>U         | Н       | Н      | L      |
| Hernandez-<br>Jimenez<br>Hurwitz  | 2021  | Randomised controlled trials  Include: Experimental; Quasi- experimental  | None specified  None specified  | 2018<br>2009–<br>2017<br>1997–                  | Adolescents (9.9-16.6)  Children; Adolescents  Early childhood; Pre-school; School-age                          | • | Physical activity: General  Body composition  Literacy: General  | • | promote physical activity (via mobile phone)  Video games: Physically active   | U                           | L              | Н                      | L<br>L         | L       | L      | L      |
| Hurwitz<br>Ivie<br>Janssen  | 2020  | Include: Correlational studies Include: Experimental; Cross-sectional; Longitudial  | None specified  None specified  Include: Healthy children   | 1997–<br>2018<br>2012–<br>2019<br>2007–<br>2019 | School-age Children (Early Primary, Elementary) Adolescents (14.0-18.0) Children                                | • | Literacy: General  Psychological health: Depression  Sleep: Duration   | • | videos   | U                           | L              | L                      | L              | L       | L      | L      |
| Kates<br>Kim  | 2018  | None Include: experimental or quasi- experimental Include: Within   | None specified  None specified  | 2008–<br>2016<br>2010–<br>2018                  | School-age<br>Children<br>School-age<br>Children<br>(Early<br>Primary,<br>Elementary)<br>School-age<br>Children | • | Learning: General  Learning: Literacy and numeracy Literacy: General Numeracy: General   | • | Screen use: General (mobile phone)  Screen use: Educational apps   | U                           | H              | L                      | H              | H       | L      | L      |
| Kroesberge<br>Kucukalkan  | 2003  | subject design; between subject design  Include: Experimental  Include: Cohort; Case-control; Cross-sectional;                                | Include: Students with math difficulties  Include: Students with dyscalculia  | 1985–<br>1999<br>2007–<br>2016                  | Children<br>(Primary,<br>Elementary)<br>(7.0-11.3)<br>School-age<br>Children<br>(Primary,<br>Elementary)        |   | Numeracy: General Numeracy: General  |   | Intervention: Mathematics (via computer in classrooms) Intervention: Mathematics   | U                           | L              | U                      | H              | Н       | H      | L      |
| Lanca<br>Li   | 2020  | Cross-sectional; Intervention trials. Exclude: Case reports; Retrospective studies. Include: Experimental; Quasi- experimental None specified | None specified  None specified  | 2007-<br>2016<br>1991-<br>2005                  | Children;<br>Adolescents<br>School-age<br>Children<br>Early<br>childhood;                                       | • | Eye health: Myopia  Numeracy: General  Body composition: Overweight/obesity  | • | Screen use: General  Intervention: Mathematics  Screen use: General  | U                           | L              | H<br>L                 | U              | L       | L<br>H | L      |
| Li  | 2022  | Include:<br>Randomised<br>controlled trials   | None specified  Include: Non- typically developing children   | 2005–<br>2019<br>2012–<br>2020                  | -   | • |  | • | Screen use: General  Intervention: Active video games for motor skills   | L                           | Н              | L                      | L              | L       | Н      | L      |
| Liao<br>Liao  | 2022 2008   | Include: experimental or quasi- experimental  Include: All quantitative designs  Include: Randomised  | None specified  None specified  None specified  | 2014–<br>2021<br>1990–<br>2003<br>1999–<br>2012 | All  School-age Children (Primary, Elementary)  Children; Adolescents   | • | Learning: Computational thinking  Learning: General  Body composition  | • | Computer use: Programming exercises  Intervention: Education (via computer)  Intervention: Screentime reduction  | U<br>L                      | H<br>H         | Н                      | H<br>L         | L<br>H  | L<br>H | L<br>H |
| Liu<br>Liu  | 2014 2016   |   | None specified  None specified  |   |   | • | Psychological health: Depression  Psychological health: Anxiety Psychological health: Depression Psychological health:   | • |  | U                           | L              | H<br>L                 | U              | L       | L      | L      |
| Liu<br>Liu<br>Lu  | 2022  | Include: studies with control group Include: Observational Include: Cross-  | None specified  None specified  Include: Healthy  | NA<br>2012–<br>2021<br>2014–                    | All<br>Adolescents  | • | Psychological health: Satisfaction  Cognition: Creativity  Psychological health: Depression  Psychological health: Negative coping style   | • | Screen use: General Social Media: General (duration) Screen use: General   | U                           | U<br>L         | H<br>L                 | H<br>U         | H<br>L  | L      | L      |
| Lu  | 2020  | Include: Observational Exclude:   | only  Exclude: Asd or intellectual  | 2014–<br>2018<br>1973–<br>2019                  | Adolescents  Children (0.5-10.6)  | • |  | • | (mobile phone addiction)  Intervention: Education (general) Screen use: General Screen use: General (coviewing) TV programs and movies: Coviewing TV programs and                  | U                           | L              | U                      | L              | L       | L      | L      |
| Madigan<br>Major  | 2020  |   | intellectual<br>disability<br>None specified  |   |   |   | Literacy: General  Learning: General   | • | _  | U                           | L              | L                      | Н              | L       | L      | L      |
| Mallawaara  | 2022  | Include: Cross-   | Include: Non-<br>clinical   | 2014–<br>2020                                   | Early<br>childhood;<br>Pre-school<br>(1.4-5.4)  | • | Cognition: Cognitive Functioning Cognition: Executive Functioning Developmental: General Developmental: Language or speech Psychological health: Psychological health:                               | • | Screen use: General<br>(mobile phone or<br>tablet)   | L                           | L              | L                      | L              | L       | L      | L      |
| Mares   | 2005  | None  | None specified  | 1969–<br>1989                                   | Children  | • | Psychological health: Self-regulation Sleep: General  Aggression: Towards peers Cognition: Reducing stereotypes Prosocial Behavior: Altruism Social interactions:                                    | • | TV programs and movies: General  | U                           | L              | н                      | Н              | L       | Н      | Н      |
| Mares   | 7013  | Exclude:<br>Experimental  | None specified  | 1973–<br>2010                                   | Children  | • | Social interactions: General  Cognition: Moral reasoning and perception of out- groups Learning: General Learning: Literacy and numeracy Learning: Physical and social environment                   | • | Intervention: Sesame<br>Street   | U                           | Н              | н                      | Н              | L       | Н      | L      |
| Marker<br>Marshall<br>Martins   | 2004  | None specified  None  Include: All quantitative designs   | None specified  None specified  None specified  | 2001–15<br>1985–<br>2002<br>2003–<br>2018       | All (6.0-12.2)  Children; Adolescents   | • |  | • | Video games: General  TV programs and movies: General  Video games: General  Screen use: General   | U                           | L              | H<br>H                 | L<br>H         | L<br>H  | L<br>H | L      |
| Martins   | 2022  | •   | None specified  Exclude: Contraindictions to physical activity Intellectual and cognative impairments                             | 2018<br>2006–<br>2017<br>2015–<br>2019          | Children;<br>Adolescents<br>All<br>(10.3-17.8)  |   | Diet: Food intake (calories)  Physical activity: General   | • | TV programs and movies: Mealtime  Intervention: To promote physical activity (via gamification)  | L                           | L              | L                      | L              | L       | H      | L      |
| McArthur<br>McArthur  | 2012  | and quasi-RCTs.<br>Include:<br>Randomised   | Include: Poor readers  Include: Poor readers  | 1994–<br>2009<br>1994–<br>2015                  | All (6.7-16.2)  Children; Adolescents   | • | Literacy: Phonics  Literacy: General  Sleep: Duration Sleep: Problems  | • | Intervention: Literacy (phonics; via computer)  Intervention: Literacy  Screen use: General  | L                           | L              | L                      | L              | L       | L      | L      |
| Mei<br>Merchant   | 2018  |   | None specified  None specified  | 2004–<br>2018<br>NA                             | Adolescents<br>(13.5-16.8)<br>School-age<br>Children  | • | •  | • | Screen use: General (excessive)  Screen use: Virtual reality simulations (Educational) Screen use: Virtual reality worlds (Educational) Video games: Virtual reality (Educational) | U                           | H              | Н                      | Н              | Н       | Н      | L      |
| Mori  | 2010  | None specified  | None specified  | 2013–<br>2018                                   | All<br>(12.3-16.7)  | • | Psychological health: Internalizing Risky behavior: Alcohol consumption Risky behavior: Delinquency Risky behavior: Drug use Risky behavior: Sexual activity   |   | _  | U                           | Н              |                        | U              | L       |        | L      |
| Mori<br>Neitzel   | 2022  | Include: random assignment or   | None specified  Include: Struggling   | 2018  | (12.3-16.7)  School-age Children  | • |  |   | Intervention: Reading (technology  | U                           |                | Н                      | Н              | L       | H      | H      |
| Neitzel<br>Oldrati  | 2020  | assignment or quasi-<br>experimental  Include: Group-<br>control<br>experimental<br>design  |   | 2020<br>2006–<br>2018                           | Children<br>(Primary,<br>Elementary)<br>School-age<br>Children  | • | Cognition: Cognitive Functioning Cognition: Executive Functioning Cognition: Verbal skills Cognition: Visuospatial skills Numeracy: General Psychological health:                                    | • |  | U                           | L              | U                      | Н              | L       | L      | L      |
| Paik<br>Pearce  | 2016  | None<br>Include: All<br>quantitative<br>designs   | None specified  None specified  | NA<br>1986–<br>2012                             | Children;<br>Adolescents<br>Children;<br>Adolescents  | • | Psychological health: Adjustment  Antisocial Behaviour: General  Psychological health: Internalizing   |   | TV programs and movies: Violent content  TV programs and movies: Scary content   | U                           | H              | И                      | Н              | Н       | L      | H      |
| Peng<br>Poorolajal  | 7070  | None<br>Include:<br>Observational   | Include: Healthy populations only  None specified   | 2001–<br>2010<br>1995–<br>2018                  | Children;<br>Adolescents<br>Children;<br>Adolescents  | • | Cardiometabolic health: Maximum oxygen consumption Physical activity: Energy expenditure Physical activity: Heart rate  Body composition   | • | Video games: Physically active  TV programs and movies: General Video games: General   | U                           | L              | U                      | U              | L       | H      | L      |
| Powers  | 2013  | Include: Experimental or quasi- experimental designs Include: Longitudinal  | None specified  None specified  | 2018<br>1985–<br>2012<br>2008–<br>2017          | Adolescents  All  (8.9-16.0)  | • | Cognition: Information processing  Aggression: Towards peers   | • | Video games: General  Video games: General  Video games: Violent content  Intervention: To   | U                           | L              | U                      | Н              | L       | L      | L      |
| Reynard<br>Rodriguez-<br>Rocha  | 2019  | None specified  Include: Experimental; Quasi- experimental  | Exclude:<br>Neurological<br>disorder<br>None specified  | 2016–<br>2020<br>1999–<br>2018                  | Children;<br>Adolescents  All (4.5-15.4)  | • | Psychological health: Emotion experience Psychological health: Emotion regulation  Diet: Fruit and vegetable intake  | • | improve emotional regulation Intervention: To improve emotional regulation (via digital games)  Intervention: Fruit and vegetable  | U                           | L              | L                      | L              | L       | L      | L      |
| Scherer   | 2016 2020   | Include: Randomised controlled trials Include: Experimental or quasi- experimental designs Include: Experimental; Quasi-                      | None specified  Exclude: Clinical or special needs populations  None specified  | 1978-<br>2014<br>1973-<br>2017<br>2001-<br>2009 | Children;<br>Adolescents<br>(3.8-11.0)<br>All<br>(6.5-16.8)   | • | Diet: Unhealthy food choice  Learning: Programming skills  Learning: General   | • | Advertising: Unhealthy food  Intervention: Education (programming)  Intervention: With digital characters  | H<br>U                      | L<br>H         | L<br>U                 | L<br>H         | L       | L      | L      |
| Scionti   | 2019  | Quasi- experimental  Include: Interventions  Include: Interventions   | None specified  Include: No health conditions except obesity  | 2009<br>2009–<br>2019<br>2013–<br>2018          | Children<br>(4.3-6.1)<br>Children;<br>Adolescents<br>(12.0-15.7)  | • | Cognition: Executive functioning  Body composition Diet: Sugary drinks Physical activity: General  | • | Intervention: Cognitive training  Intervention: To promote health (via mobile phone app) Intervention: To promote health (via mobile phone)  | L                           | L              | L                      | H              | L       | L      | L      |
|   | 2014  | Include: Randomised controlled trials; Quasi- experimental; Observational   |   | 2000–<br>2011                                   | School-age<br>Children<br>(Primary,<br>Elementary)  | • | -  |   | •  | U                           | Н              | Н                      | Н              | L       | Н      | Н      |
| Strouse   | 2021  | Include: experimental and quasi- experimental designs  Include: Experimental; Quasi- experimental   | Include: No<br>developmental<br>delay<br>None specified   | 1994–<br>2019<br>1980–<br>2014                  | childhood; Pre-school; School-age Children (Early Primary, Elementary) (0.8-6.5)                                |   | Learning: General Learning: General  |   | Screen use: Video (vs<br>face-to-face)<br>e-Books: Narration   | И                           | L              | U                      | Н              | H       | L      | L      |
| Takacs  | 2019  | -   | None specified  | 2001–<br>2016                                   | Children  | • | Cognition: Executive Functioning (accuracy) Cognition: Executive Functioning (cognitive flexibility) Cognition: Executive Functioning (inhibition) Cognition: Executive Functioning (working memory) | • | Intervention:<br>Education (via<br>computer)   | L                           | L              | U                      | Н              | L       | L      | L      |
| Tekedere<br>Tokac   | 2019  | None Include: desgins with a control group Include: Interventions   | None specified  None specified  | 2010–<br>2015<br>2006–<br>2016                  | All School-age Children School-age  | • | memory)  Learning: General  Numeracy: Mathematics  |   | Intervention: Augmented reality (in schools)  Video games: Educational   | U                           | Н              | U                      | И              | L       | L      | L      |
| Vahedi<br>Vannucci  | 2018  |   | None specified  None specified  | 2015–<br>2016<br>2011–<br>2018                  | School-age<br>Children<br>(Middle/High<br>School)<br>Adolescents<br>(12.6-18.0)                                 | • | Risky behavior: Media literacy Risky behavior: Risk taking (attitude)  Risky behavior: Risk taking (general) Risky behavior: Risky sexual behaviour Risky behavior: Substance abuse                  |   | Intervention: Media<br>literacy (web-based)<br>Social Media: General   | U                           | L              | U                      | Н              | L       | L      | L      |
| Wang<br>Wouters   | 2020  | Include: longitudinal, cohort, case- control, cross- sectional, or controlled trials Include: experimental designs                            | None specified  Exclude: Disabilities   | 2016–<br>2020<br>2005–<br>2012                  | All<br>(9.5-16.8)   | • | _  |   | Screen use: General<br>(mobile phone)<br>Video games:<br>Educational   | U                           | L              | L                      | L              | L       | L      | L      |
| Wouters<br>Xie  | 2013  | Include: Experimental with control group Include: Experimental; Quasi- experimental; Pre-test post- test Include:                             | None specified  None specified  | 1993–<br>2007<br>2010–<br>2018                  | All Children (1.8-5.9)  |   | Learning: General Learning: General  |   | Video games: Educational (with instructional support)  Intervention: Education (via touch screen)  | U                           | H              | U                      | Н              | L       | L      | L      |
| Xie<br>Yin  | 2018  |   | Exclude: Health conditions  None specified  | 2010–<br>2018<br>2006–<br>2016                  | Early<br>childhood;<br>Pre-school<br>(1.8-5.8)  | • | Learning: General  Psychological health: General Psychological health: Positive mental health  | • | Screen use: Touchscreens  Social Media: General  | U                           | Н              | U                      | Н              | L       | L      | L      |
| Zhang<br>Zhang  | 2016  | Case-control;<br>Cross-sectional<br>Include:<br>longitudinal or<br>cohort designs   | None specified  Exclude: Chronic conditions   | 2001–<br>2014<br>2001–<br>2021                  | Children;<br>Children;<br>Adolescents<br>(3.8-17.1)   | • | Psychological health: Other mental health problems  Body composition Cardiometabolic health: Poor fitness  |   | TV programs and movies: General  Screen use: General   | U                           | L              | L                      | U              | L       | L      | L      |
| Zhang   | 2022  | Include: Observational or experimental designs  Exclude: Non- empirical studies; Oualitative:   | Exclude: Psychological or physical diseases   | 2009–<br>2020<br>2009–                          |   | • |  |   | Screen use: General  Video games: Health   | U                           | н              | L                      | L              | L       | L      | L      |
| Zhou  | 2020  | studies; Qualitative; Systematic reviews or meta- analyses  Include: observational cross-sectional, case-control, or longitudinal designs     | None specified  None specified  | 2009–<br>2018<br>2009–<br>2021                  | All<br>(11.5-17.9)  | • |  | • | Video games: Health promoting content  Computer use: General Screen use: General (mobile phone) TV programs and movies: General Video games: General                               | U                           | L              | U                      | H              | L       | L      | L      |
| <sup>2</sup> Where prov<br><sup>3</sup> Eligibility cr                            | 2009<br>om the<br>ided<br>iteria pr                       | Include:<br>Randomised<br>controlled trials;<br>Quasi-<br>experimental;<br>Observational  | ed  | 1997–<br>2006<br>e's Quality Ass                | School-age<br>Children<br>(Primary,<br>Elementary)<br>sessment of Syst  | • | Literacy: Decoding<br>Literacy: Reading<br>comprehension<br>atic Reviews and Meta-Ana  | • |  | <b>L</b><br>led the fi      | <b>L</b>       | <b>U</b><br>of the too | H<br>I.        | L       | Н      | L      |
| <sup>4</sup> Literature s<br><sup>5</sup> Dual indepe<br><sup>6</sup> Dual indepe | earch st<br>endent s<br>endent c<br>udies lis<br>bias ass | crategy comprehensing<br>screening & review<br>quality assessment<br>ted with important consessed   | ve and systematic   | sults of each                                   |   |   |  |   |  |                             |                |                        |                |         |        |        |