

Associations Between Exposures and Health-related Outcomes

The forest plot displays the results of 100 studies across 15 categories. Each study's effect size (r) and 95% confidence interval (CI) are shown as a horizontal line with a diamond marker. The x-axis represents the effect size (r), ranging from -0.8 to 0.8. The y-axis lists the outcome variables. Study characteristics (Age Group, Pop., Design, Date, Lead Author) are listed above each study entry. Statistical parameters (I², K, N, Indiv. Data, Eggers, Excess Signif.) are provided for each category.

Outcome	Specific Outcome	Exposure	Age Group	Pop.	Study Design	Lead Author, Date	r with 95% CI	I ²	K	N	Indiv. Data	Eggers	Excess Signif.
Aggression	Towards peers	Screen use: General	Mixed	General	Mixed or underar	Martins, 2019	0.01 [0.02, 0.05]	3	707	x	-	-	-
	Towards peers	TV programs and movies: General	Children	General	Mixed or underar	Mates, 2005	0.26 [0.20, 0.33]	15	747	x	-	-	-
	Towards peers	Video games: Violent content	Children	General	Longitudinal	Prescott, 2018	0.10 [0.07, 0.12]	7	3,583	x	-	-	-
Antisocial Behaviour	General	TV programs and movies: Violent content	Children	General	Mixed or underar	Paik, 1994	0.31 [0.21, 0.40]	351	x	-	-	-	-
	General	TV programs and movies: Violent content	Adolescents	General	Mixed or underar	Paik, 1994	0.22 [0.12, 0.32]	334	x	-	-	-	-
	General	TV programs and movies: Violent content	General	General	Mixed or underar	Paik, 1994	0.46 [0.41, 0.51]	1,117	x	-	-	-	-
Body composition	BMI z-score	Screen use: General (meeting guidelines)	Young	General	Mixed or underar	Fong, 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	Comeras-Cueca, 2021	-0.03 [0.11, 0.05]	0%	6	597	v	x	v
	Body fat percentage	Video games: Physically active	Mixed	Overweight and obese	Experimental	Comeras-Cueca, 2021	-0.30 [0.46, -0.14]	44%	3	408	v	x	v
	Body composition	Computer use: General	Mixed	General	Longitudinal	van Eekhs, 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	-0.08 [0.16, 0.01]	0%	5	541	v	x	v
	Body composition	Screen-based intervention: To promote healthy weight (via mobile phone app)	Adolescents	General	Experimental	Shin, 2019	-0.02 [0.09, 0.05]	0%	6	853	v	x	v
	Body composition	Screen-based intervention: To promote healthy weight (via mobile phone)	Mixed	General	Experimental	Darling, 2017	-0.21 [0.31, -0.09]	9	565	x	-	-	-
	Body composition	Screen-based intervention: To promote healthy weight (via mobile phone)	Adolescents	General	Experimental	Shin, 2019	-0.02 [0.07, 0.03]	0%	9	1,368	v	x	v
	Body composition	Screen-based intervention: To promote healthy weight (via text message)	Adolescents	General	Experimental	Shin, 2019	-0.01 [0.10, 0.07]	0%	3	505	v	x	v
	Body composition	Screen-based intervention: To promote healthy weight (via text message)	Mixed	General	Experimental	Hammersley, 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	28,716	x	-	-	-
	Body composition	TV programs and movies: General	Mixed	General	Longitudinal	van Eekhs, 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 underar	Marshall, 2004	0.07 [0.06, 0.08]	70%	52	44,707	x	-	-
	Body composition	Video games: General	Mixed	General	General	Marshall, 2004	0.15 [0.04, 0.26]	78%	4	2,047	v	x	v
Fat-free mass	Video games: Physically active	Mixed	Overweight and obese	Experimental	Comeras-Cueca, 2021	-0.08 [0.32, 0.21]	76%	3	408	v	x	v	
Waist circumference	Video games: Physically active	Mixed	Overweight and obese	Experimental	Comeras-Cueca, 2021	-0.19 [0.55, 0.17]	90%	3	443	v	x	v	
BMI	Video games: Physically active	Mixed	Overweight and obese	Experimental	Comeras-Cueca, 2021	-0.10 [0.18, -0.01]	0%	4	488	v	x	v	
BMI	Video games: Physically active	Children	General	Experimental	Comeras-Cueca, 2021	-0.14 [0.26, -0.02]	62%	7	898	v	x	v	
Cardiometabolic health	Fitness	Video games: Health promoting content	Children	Chronic disease	Experimental	Bossem, 2020	0.16 [0.30, 0.32]	10%	2	161	v	x	v
	Fitness	Video games: Physically active	Children	General	Experimental	Comeras-Cueca, 2021	0.21 [0.01, 0.43]	90%	4	892	v	x	v
	Maximum oxygen consumption	Video games: Physically active	Children	General	Mixed or underar	Peng, 2011	0.82 [0.74, 0.87]	9	172	x	-	-	-
Cognition	Cognitive functioning	Screen-based intervention: Cognitive training	Mixed	General	Experimental	Olfrait, 2020	0.21 [0.13, 0.28]	88%	68	3,540	v	x	v
	Creativity	Screen use: General	Children	General	Experimental	Liu, 2022	0.20 [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 (accuracy)	Screen-based intervention: Education (via computer)	Children	General	Experimental	Takacs, 2019	0.21 [0.12, 0.28]	58%	28	1,563	x	-	-
	Executive functioning (cognitive flexibility)	Computer use: Executive functioning training	Children	General	Experimental	Takacs, 2019	0.09 [0.04, 0.22]	48%	12	1,015	x	-	-
	Executive functioning (inhibition)	Screen-based intervention: Education (via computer)	Children	General	Experimental	Takacs, 2019	0.12 [0.04, 0.22]	22%	22	1,512	x	-	-
	Executive functioning (inhibition)	Computer use: Executive functioning training	Children	General	Experimental	Takacs, 2019	0.11 [0.07, 0.17]	90%	15	894	x	-	-
	Executive functioning (working memory)	Screen-based intervention: Education (via computer)	Children	General	Experimental	Cao, 2020	0.09 [0.02, 0.14]	56%	28	2,170	x	-	-
	Executive functioning (working memory)	Computer use: Executive functioning training	Children	General	Experimental	Cao, 2020	0.12 [0.04, 0.22]	21	1,220	x	-	-	-
	Executive functioning (working memory)	Screen-based intervention: Education (via computer)	Children	General	Experimental	Takacs, 2019	0.23 [0.14, 0.32]	54%	36	2,975	v	x	v
	Executive functioning (working memory)	Computer use: Executive functioning training	Children	General	Experimental	Cao, 2020	0.19 [0.15, 0.25]	48%	34	2,585	x	-	-
	Executive functioning (working memory)	Screen-based intervention: Education (via computer)	Young	General	Observational	Mallavaarachchi, 2022	0.10 [0.20, 0.00]	40%	5	610	v	x	v
	Executive functioning	Screen-based intervention: Cognitive training	Mixed	General	Experimental	Olfrait, 2020	0.19 [0.03, 0.40]	92%	13	571	v	x	v
	Executive functioning	Screen-based intervention: Cognitive training	Young	General	Experimental	Scomti, 2019	0.13 [0.06, 0.18]	38%	57	2,606	v	x	v
	More screen time and perception of out-groups	Screen-based intervention: Sesame Street	Children	General	Mixed or underar	Mares, 2013	0.09 [0.06, 0.13]	17	5,837	x	-	-	-
Reducing stereotypes	TV programs and movies: General	Children	General	Mixed or underar	Mares, 2005	0.22 [0.18, 0.26]	37	1,814	x	-	-	-	
Verbal skills	Screen-based intervention: Cognitive training	Mixed	General	Experimental	Olfrait, 2020	0.20 [0.04, 0.35]	90%	19	948	v	x	v	
Visual-spatial skills	Screen-based intervention: Cognitive training	Mixed	General	Experimental	Olfrait, 2020	0.21 [0.11, 0.31]	52%	14	800	v	x	v	
Developmental	Gross motor (non-locomotor)	Screen-based intervention: Active video games for motor skills	Mixed	Atypically developing	Experimental	Li, 2022	0.27 [0.12, 0.41]	82%	17	556	v	x	v
	Gross motor (object control skills)	Screen-based intervention: Active video games for motor skills	Mixed	Atypically developing	Experimental	Li, 2022	0.16 [0.06, 0.40]	74%	5	214	v	x	v
	Gross motor (locomotor)	Screen-based intervention: Active video games for motor skills	Mixed	Atypically developing	Experimental	Li, 2022	0.31 [0.22, 0.40]	18%	14	472	v	x	v
	Language or speech	Screen use: General (mobile phone or tablet)	Young	General	Observational	Mallavaarachchi, 2022	-0.09 [0.21, 0.03]	82%	9	1,811	v	x	v
	Fat consumption	Screen-based intervention: Lifestyle risk behaviour (at school)	Mixed	General	Experimental	Champion, 2019	-0.03 [0.07, 0.01]	48%	5	5,210	v	x	v
Fat consumption	Screen-based intervention: Nutrition (in school)	Mixed	General	Experimental	Beck, 2022	-0.07 [0.12, -0.02]	0%	2	2,840	x	-	-	
Food intake (calories)	TV programs and movies: Mealtimes	Mixed	General	Experimental	Martins, 2022	0.03 [0.06, 0.12]	0%	4	486	v	x	v	
Fruit and vegetable intake	Screen-based intervention: Fruit and vegetable	Children	General	Experimental	Rodriguez-Rocha, 2019	0.12 [0.05, 0.28]	82%	4	965	v	x	v	
Fruit and vegetable intake	Screen-based intervention: Fruit and vegetable	Adolescents	General	Experimental	Rodriguez-Rocha, 2019	0.16 [0.09, 0.23]	56%	4	1,688	v	x	v	
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	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	
Healthy dietary behaviour	Screen-based intervention: To promote health (via mobile phone)	Mixed	General	Experimental	Cao, 2020	0.21 [0.15, 0.26]	22%	22	1,512	x	-	-	
Sugary drinks and snacks	Screen-based intervention: Lifestyle risk behaviour (at school)	Mixed	General	Experimental	Champion, 2019	-0.01 [0.05, 0.03]	54%	5	5,812	v	x	v	
Sugary drinks	Screen-based intervention: To promote health (via mobile phone)	Adolescents	General	Experimental	Shin, 2019	-0.23 [0.48, 0.03]	92%	3	758	v	x	v	
Unhealthy food choice	Advertising: Unhealthy food	Mixed	General	Experimental	Sadehgirad, 2016	0.11 [0.02, 0.24]	88%	12	2,053	x	-	-	
Unhealthy food choice	Advertising: Unhealthy food	Children	General	Experimental	Sadehgirad, 2016	-0.20 [0.64, 0.24]	100%	4	2,298	v	x	v	
Unhealthy food choice	Advertising: Unhealthy food	General	General	Experimental	Sadehgirad, 2016	0.22 [0.12, 0.32]	48%	8	710	v	x	v	
General	Video games: Health-promoting content	Mixed	General	Mixed or underar	Zhou, 2020	0.15 [0.03, 0.28]	70%	7	913	v	x	v	
Self-efficacy	Video games: Health-promoting content	Mixed	General	Mixed or underar	Zhou, 2020	0.15 [0.02, 0.28]	38%	5	391				