

Screen Use and Sleep in Early Childhood: A national survey of Australian Families

Additional Files

Table of Contents

Table 1: Association between total screen time and sleep outcomes for infants (Age 6 - 12-months; N = 314).....	2
Table 2: Association between evening screen time and sleep outcomes for infants (Age 6 – 12-months; N = 314).....	3
Table 3: Association between device type and night sleep duration by age group.....	4
Table 4: Association between evening screen use and night sleep duration by Age Group	6
Table 5: Association between device type and sleep time by age group	7
Table 6: Association between evening screen use and sleep time by age group	8
Table 7: Association between device type and napping by age group	9
Table 8: Association between screen time and parent perceived sleep problems for 1- and 2 year-olds	11
Table 9: Association between evening screen time and parent perceived sleep problems for 1- and 2 year-olds	12
Table 10: Association between device type and sleep disturbances (T-score) for 3- – 5-year-olds	13
Table 11: Association between evening screen use and sleep disturbances (T-score) for 3- – 5-year-olds	14
Table 12: Association between device type and daytime sleep related impairment (T-score) for 3- – 5-year-olds	15
Table 13: Association between evening screen use and sleep related impairment (T-score) for 3- – 5-year-olds	16

Table 1: Association between total screen time and sleep outcomes for infants (Age 6 - 12-months; N = 314)

Variable	Night Sleep Duration	Napping	Sleep Time	Parent perceived sleep problems
Total Average Screen	-5.35 [-12.65; 1.95]	-3.95 [-10.65; 2.76]	0.12 [-0.01; 0.26]	-0.31 [-0.64; 0.02]
Parent/caregiver level of study (Ref: Postgrad)				
Graduate or Certificate	3.92 [-11.87; 19.71]	-1.19 [-15.67; 13.29]	-0.23 [-0.52; 0.06]	0.42 [-0.30; 1.14]
High school or less	6.67 [-17.31; 30.64]	-3.56 [-25.56; 18.44]	-0.35 [-0.79; 0.10]	-0.26 [-1.35; 0.83]
Average nap duration across the week	0.15 [0.03; 0.28]*			
Parents Age	-0.63 [-2.10; 0.84]	1.08 [-0.26; 2.43]	-0.02 [-0.05; 0.00]	-0.08 [-0.15; -0.01]*
IRSAD (Ref: 1st quintile)				
2nd quintile	-2.68 [-27.42; 22.05]	-7.81 [-30.48; 14.86]	0.49 [0.03; 0.94]*	0.91 [-0.21; 2.03]
3rd quintile	5.34 [-18.15; 28.82]	-9.01 [-30.54; 12.51]	-0.02 [-0.45; 0.41]	1.31 [0.24; 2.37]*
4th quintile	10.68 [-12.06; 33.42]	-7.33 [-28.20; 13.54]	-0.01 [-0.42; 0.41]	1.21 [0.18; 2.24]*
5th quintile	14.90 [-8.62; 38.42]	-15.66 [-37.22; 5.89]	0.10 [-0.34; 0.53]	1.08 [0.01; 2.14]*
Night Sleep Duration		0.13 [0.03; 0.23]*		
Goodness-of-Fit statistics	F(9, 304)=1.44, p=0.17	F(9, 304)=1.44, p=0.17	F(8, 305)=2.12, p=0.03	F(8, 305)=2.28, p=0.02
R²	0.04	0.04	0.05	0.06

Table 2: Association between evening screen time and sleep outcomes for infants (Age 6 – 12-months; N = 314)

Variable	Night Sleep Duration	Napping	Sleep Time	Parent perceived sleep problems
Frequent Evening Screen Use (ref:Low/No)	-9.40 [-23.22; 4.42]	-2.96 [-15.68; 9.77]	0.25 [-0.01; 0.50]	-0.57 [-1.19; 0.06]
Parent/caregiver level of study (Ref: Postgrad)				
Graduate or Certificate	2.94 [-12.81; 18.70]	-1.86 [-16.33; 12.62]	-0.21 [-0.50; 0.08]	0.36 [-0.35; 1.08]
High school or less	5.23 [-18.54; 29.01]	-5.18 [-27.01; 16.66]	-0.32 [-0.75; 0.12]	-0.34 [-1.42; 0.74]
Average nap duration across the week	0.16 [0.04; 0.28]*			
Parents Age	-0.60 [-2.07; 0.87]	1.14 [-0.21; 2.48]	-0.02 [-0.05; 0.00]	-0.08 [-0.14; -0.01]*
IRSAD (Ref: 1st quintile)				
2nd quintile	-4.30 [-29.07; 20.47]	-8.62 [-31.35; 14.11]	0.53 [0.07; 0.98]*	0.81 [-0.31; 1.94]
3rd quintile	4.95 [-18.59; 28.48]	-8.88 [-30.47; 12.72]	-0.00 [-0.44; 0.43]	1.28 [0.21; 2.35]*
4th quintile	10.83 [-11.92; 33.57]	-6.92 [-27.82; 13.99]	-0.01 [-0.42; 0.41]	1.22 [0.19; 2.25]*
5th quintile	15.54 [-7.95; 39.02]	-15.05 [-36.61; 6.52]	0.08 [-0.35; 0.52]	1.11 [0.05; 2.18]*
Night Sleep Duration		0.13 [0.03; 0.24]*		
Goodness-of-Fit statistics	F(9, 304)=1.40, p=0.19	F(9, 304)=1.31, p=0.23	F(8, 305)=2.18, p=0.03	F(8, 305)=2.23, p=0.02
R2	0.04	0.04	0.05	0.06

Table 3: Association between device type and night sleep duration by age group

Variable	Night sleep duration				
	Age 1 year	Age 2 years	Age 3 years	Age 4 years	Age 5 years
Static Devices (hrs/day)	-1.65 [-5.98; 2.68]	-7.36 [-11.14; -3.58]*	-5.87 [-9.00; -2.73]*	-4.18 [-7.81; -0.54]*	-6.40 [-12.77; -0.02]*
Handheld Devices (hrs/day)	-11.51 [-21.46; -1.57]*	-7.35 [-14.24; -0.45]*	-9.52 [-13.23; -5.81]*	-3.68 [-7.41; 0.04]	-9.11 [-14.94; -3.28]*
Parent/caregiver level of study (Ref: Postgrad)					
Graduate or Certificate	-4.67 [-14.84; 5.50]	1.52 [-7.89; 10.93]	5.79 [-3.54; 15.12]	6.00 [-4.18; 16.18]	-11.04 [-22.65; 0.57]
High school or less	4.67 [-10.74; 20.09]	6.85 [-13.26; 26.97]	13.17 [-1.35; 27.69]	11.31 [-3.49; 26.10]	-2.52 [-33.15; 28.12]
Average nap duration across the week	0.09 [-0.03; 0.20]	-0.19 [-0.28; -0.09]*	-0.35 [-0.45; -0.25]*	-0.34 [-0.54; -0.14]*	0.01 [-0.26; 0.28]
Parents Age	-1.14 [-2.02; -0.25]*	0.24 [-0.75; 1.23]	-0.61 [-1.29; 0.07]	-0.66 [-1.48; 0.16]	0.01 [-1.39; 1.41]
IRSAD (Ref: 1st quintile)					
2nd quintile	10.93 [-7.97; 29.83]	3.05 [-14.56; 20.67]	6.67 [-12.62; 25.95]	13.40 [-3.82; 30.62]	5.22 [-23.28; 33.72]
3rd quintile	2.88 [-14.01; 19.77]	-12.90 [-30.21; 4.41]	3.22 [-14.38; 20.82]	10.80 [-3.83; 25.43]	2.48 [-23.57; 28.53]
4th quintile	13.46 [-2.76; 29.68]	-6.19 [-22.67; 10.30]	6.78 [-10.69; 24.24]	7.19 [-8.15; 22.53]	8.63 [-18.78; 36.03]
5th quintile	-3.35 [-20.04; 13.34]	-9.94 [-27.60; 7.72]	0.14 [-17.52; 17.79]	7.78 [-8.50; 24.07]	-16.70 [-41.53; 8.12]

Goodness-of-Fit statistics	F(10, 680)=3.16, p<0.01	F(10, 701)=3.63, p<0.01	F(10, 651)=10.64, p<0.01	F(10, 605)=3.61, p<0.01	F(10, 276)=2.97, p<0.01
Number of Participants	691	712	662	616	287

Note: Models adjusted for caregiver education, parent age, day sleep duration, and IRSAD. Robust standard errors were used to correct for heteroscedasticity.

Table 4: Association between evening screen use and night sleep duration by Age Group

Variable	Night sleep duration				
	Age 1 year	Age 2 years	Age 3 years	Age 4 years	Age 5 years
Frequent Evening Screen Use (ref:Low/No)	-11.99 [-20.51; -3.47]*	-11.00 [-20.49; -1.52]*	-10.57 [-18.86; -2.28]*	-11.87 [-20.47; -3.26]*	-15.36 [-27.82; -2.90]*
Parent/caregiver level of study (Ref: Postgrad)					
Graduate or Certificate	-2.46 [-12.70; 7.78]	-0.01 [-9.45; 9.44]	5.60 [-3.92; 15.13]	7.51 [-2.96; 17.98]	-11.32 [-23.79; 1.15]
High school or less	5.81 [-10.05; 21.66]	4.26 [-15.70; 24.21]	8.22 [-6.94; 23.38]	11.73 [-3.17; 26.63]	-8.11 [-39.35; 23.14]
Average nap duration across the week	0.10 [-0.01; 0.21]	-0.17 [-0.27; -0.07]*	-0.35 [-0.45; -0.25]*	-0.36 [-0.56; -0.16]*	0.07 [-0.22; 0.37]
Parents Age	-1.14 [-2.02; -0.25]*	0.24 [-0.75; 1.23]	-0.49 [-1.21; 0.23]	-0.59 [-1.42; 0.24]	-0.13 [-1.61; 1.35]
IRSAD (Ref: 1st quintile)					
2nd quintile	10.92 [-7.51; 29.35]	3.93 [-14.13; 21.98]	3.93 [-15.41; 23.27]	13.89 [-3.34; 31.13]	7.15 [-22.39; 36.68]
3rd quintile	2.63 [-13.61; 18.87]	-10.06 [-27.38; 7.26]	0.53 [-17.17; 18.23]	11.31 [-3.31; 25.93]	3.90 [-23.43; 31.23]
4th quintile	13.32 [-2.34; 28.98]	-3.52 [-20.21; 13.17]	7.22 [-10.64; 25.07]	8.62 [-6.78; 24.02]	10.27 [-18.36; 38.90]
5th quintile	-4.85 [-21.20; 11.51]	-7.34 [-25.05; 10.38]	1.32 [-16.65; 19.28]	8.64 [-7.43; 24.70]	-10.72 [-38.80; 17.35]
R²	0.05	0.03	0.09	0.06	0.04
Goodness-of-Fit statistics	F(9, 681)=3.66, p<0.01	F(9, 702)=2.36, p=0.01	F(9, 652)=7.07, p<0.01	F(9, 606)=3.52, p<0.01	F(9, 277)=1.82, p=0.06
Number of Participants	691	712	662	616	287

Note: Robust standard errors were used to correct for heteroscedasticity.

Table 5: Association between device type and sleep time by age group

Variable	Sleep Time				
	Age 1 year	Age 2 years	Age 3 years	Age 4 years	Age 5 years
Static Devices (hrs/day)	0.09 [0.01; 0.16]*	0.06 [0.00; 0.12]*	0.11 [0.05; 0.17]*	0.11 [0.04; 0.19]*	0.02 [-0.07; 0.11]
Handheld Devices (hrs/day)	0.26 [0.07; 0.45]*	0.29 [0.16; 0.42]*	0.23 [0.17; 0.30]*	0.10 [0.04; 0.17]*	0.14 [0.02; 0.26]*
Parent/caregiver level of study (Ref: Postgrad)					
Graduate or Certificate	0.01 [-0.16; 0.17]	-0.11 [-0.26; 0.05]	-0.22 [-0.40; -0.04]*	-0.25 [-0.45; -0.05]*	0.09 [-0.16; 0.33]
High school or less	-0.03 [-0.29; 0.22]	0.05 [-0.21; 0.32]	-0.15 [-0.45; 0.15]	0.05 [-0.25; 0.34]	0.43 [-0.17; 1.02]
Parents Age	0.01 [-0.00; 0.03]	0.01 [-0.01; 0.02]	0.00 [-0.01; 0.02]	0.00 [-0.01; 0.02]	-0.03 [-0.05; -0.00]*
IRSAD (Ref: 1st quintile)					
2nd quintile	0.11 [-0.16; 0.37]	-0.06 [-0.36; 0.24]	-0.05 [-0.35; 0.26]	-0.31 [-0.68; 0.05]	0.26 [-0.28; 0.80]
3rd quintile	0.03 [-0.21; 0.27]	-0.08 [-0.36; 0.21]	-0.08 [-0.35; 0.18]	-0.46 [-0.77; -0.14]*	0.02 [-0.42; 0.45]
4th quintile	-0.16 [-0.39; 0.07]	-0.21 [-0.48; 0.06]	0.05 [-0.23; 0.33]	-0.25 [-0.58; 0.08]	0.01 [-0.42; 0.44]
5th quintile	0.01 [-0.23; 0.26]	-0.10 [-0.38; 0.18]	0.05 [-0.23; 0.33]	-0.36 [-0.68; -0.04]*	0.35 [-0.07; 0.77]
R²	0.06	0.09	0.11	0.08	0.09
Goodness-of-Fit statistics	F(9, 681)=3.75, p<0.01	F(9, 702)=3.96, p<0.01	F(9, 652)=9.50, p<0.01	F(9, 606)=5.91, p<0.01	F(9, 277)=1.88, p=0.06
Number of Participants	691	712	662	616	287

Note: Models adjusted for caregiver education, parent age, and IRSAD. Robust standard errors were used to correct for heteroscedasticity.

Table 6: Association between evening screen use and sleep time by age group

Variable	Sleep Time				
	Age 1 year	Age 2 years	Age 3 years	Age 4 years	Age 5 years
Frequent Evening Screen Use (ref:Low/No)	0.29 [0.15; 0.43]*	0.35 [0.21; 0.48]*	0.48 [0.32; 0.63]*	0.39 [0.24; 0.55]*	0.33 [0.12; 0.54]*
Parent/caregiver level of study (Ref: Postgrad)					
Graduate or Certificate	-0.04 [-0.21; 0.13]	-0.07 [-0.23; 0.08]	-0.24 [-0.43; -0.06]*	-0.30 [-0.50; -0.09]*	0.08 [-0.16; 0.32]
High school or less	-0.03 [-0.31; 0.24]	0.07 [-0.19; 0.33]	-0.05 [-0.37; 0.26]	0.03 [-0.27; 0.33]	0.48 [-0.10; 1.06]
Parents Age	0.01 [-0.00; 0.03]	0.01 [-0.01; 0.02]	-0.00 [-0.01; 0.01]	0.00 [-0.02; 0.02]	-0.02 [-0.05; 0.00]
IRSAD (Ref: 1st quintile)					
2nd quintile	0.08 [-0.19; 0.34]	-0.09 [-0.41; 0.23]	0.02 [-0.29; 0.33]	-0.32 [-0.68; 0.04]	0.20 [-0.33; 0.74]
3rd quintile	0.01 [-0.23; 0.25]	-0.13 [-0.42; 0.16]	-0.02 [-0.29; 0.25]	-0.47 [-0.77; -0.16]*	-0.00 [-0.44; 0.43]
4th quintile	-0.18 [-0.41; 0.04]	-0.28 [-0.57; -0.00]*	0.06 [-0.23; 0.34]	-0.28 [-0.60; 0.04]	-0.04 [-0.48; 0.40]
5th quintile	0.01 [-0.25; 0.26]	-0.16 [-0.45; 0.14]	0.05 [-0.23; 0.33]	-0.37 [-0.68; -0.06]*	0.30 [-0.13; 0.73]
R²	0.04	0.04	0.06	0.07	0.08
Goodness-of-Fit statistics	F(8, 682)=3.89, p<0.01	F(8, 703)=3.93, p<0.01	F(8, 653)=5.16, p<0.01	F(8, 607)=5.15, p<0.01	F(8, 278)=2.10, p=0.04
Number of Participants	691	712	662	616	287

Note: Robust standard errors were used to correct for heteroscedasticity.

Table 7: Association between device type and napping by age group

Variable	Napping				
	Age 1 year	Age 2 years	Age 3 years	Age 4 years	Age 5 years
Static Devices (hrs/day)	-4.32 [-7.56; -1.09]*	0.15 [-2.46; 2.76]	-2.57 [-5.28; 0.15]	2.19 [-0.04; 4.42]	-0.57 [-2.65; 1.51]
Handheld Devices (hrs/day)	-6.75 [-12.61; -0.90]*	-7.06 [-11.73; -2.39]*	-0.27 [-3.55; 3.02]	0.86 [-0.87; 2.58]	-1.00 [-2.66; 0.67]
Parent/caregiver level of study (Ref: Postgrad)					
Graduate or Certificate	2.06 [-5.99; 10.11]	0.17 [-7.53; 7.87]	-2.55 [-9.96; 4.87]	2.39 [-2.54; 7.31]	0.10 [-5.75; 5.94]
High school or less	-2.95 [-15.87; 9.97]	-0.81 [-13.81; 12.19]	5.67 [-6.03; 17.37]	5.71 [-2.38; 13.80]	2.99 [-6.61; 12.59]
Parents Age	0.33 [-0.39; 1.05]	0.50 [-0.24; 1.23]	-0.42 [-0.93; 0.09]	-0.02 [-0.40; 0.37]	-0.25 [-0.70; 0.20]
IRSAD (Ref: 1st quintile)					
2nd quintile	-11.33 [-23.25; 0.59]	-1.68 [-15.45; 12.09]	8.61 [-4.12; 21.35]	-1.24 [-9.50; 7.01]	-3.14 [-12.39; 6.11]
3rd quintile	-14.13 [-24.84; -3.41]*	-2.43 [-14.89; 10.03]	6.15 [-5.30; 17.60]	-3.53 [-10.94; 3.88]	-2.43 [-11.78; 6.91]
4th quintile	-10.63 [-20.98; -0.28]*	1.57 [-10.67; 13.81]	4.77 [-6.28; 15.81]	0.93 [-6.55; 8.40]	-6.96 [-15.02; 1.10]
5th quintile	-10.18 [-20.65; 0.29]	1.23 [-11.33; 13.79]	7.10 [-4.27; 18.47]	-2.84 [-9.96; 4.29]	-3.04 [-11.42; 5.34]
Night Sleep Duration	0.05 [-0.01; 0.12]	-0.11 [-0.16; -0.05]*	-0.22 [-0.27; -0.16]*	-0.09 [-0.15; -0.03]*	0.00 [-0.05; 0.05]
R ²	0.04	0.04	0.09	0.06	0.02

Goodness-of-Fit statistics	F(10, 680)=2.77, p<0.01	F(10, 701)=2.47, p=0.01	F(10, 651)=5.91, p<0.01	F(10, 605)=2.78, p<0.01	F(10, 276)=0.85, p=0.59
Number of Participants	691	712	662	616	287

Note: Models adjusted for caregiver education, parent age, night sleep duration, and IRSAD. Robust standard errors were used to correct for heteroscedasticity.

Table 8: Association between screen time and parent perceived sleep problems for 1- and 2 year-olds

Variable	Parent Perceived Sleep Problems	
	Age 1 year	Age 2 years
Stratic Devices (hrs/day)	-0.02 [-0.20; 0.15]	0.10 [-0.06; 0.26]
Handheld Devices (hrs/day)	0.62 [0.34; 0.89]*	0.10 [-0.14; 0.34]
Parent/caregiver level of study (Ref: Postgrad)		
Graduate or Certificate	-0.82 [-1.37; -0.26]*	-0.07 [-0.49; 0.35]
High school or less	-1.04 [-1.78; -0.30]*	-0.46 [-1.15; 0.22]
Parents Age	0.03 [-0.01; 0.07]	-0.01 [-0.05; 0.03]
IRSAD (Ref: 1st quintile)		
2nd quintile	-0.51 [-1.28; 0.26]	-0.14 [-0.90; 0.61]
3rd quintile	-0.50 [-1.19; 0.19]	-0.42 [-1.09; 0.25]
4th quintile	-0.82 [-1.49; -0.15]*	-0.42 [-1.07; 0.23]
5th quintile	-0.40 [-1.11; 0.31]	-0.35 [-1.02; 0.33]
R²	0.05	0.01
Goodness-of-Fit statistics	F(9, 681)=4.96, p<0.01	F(9, 701)=0.73, p=0.69
Number of Participants	691	711

Note: Models adjusted for caregiver education, parent age, and IRSAD. Robust standard errors were used to correct for heteroscedasticity.

Table 9: Association between evening screen time and parent perceived sleep problems for 1- and 2 year-olds

Variable	Parent Perceived Sleep Problems	
	Age 1 year	Age 2 years
Frequent Evening Screen Use (ref:Low/No)	0.39 [0.01; 0.77]*	0.44 [0.06; 0.81]*
Parent/caregiver level of study (Ref: Postgrad)		
Graduate or Certificate	-0.92 [-1.47; -0.36]*	-0.06 [-0.47; 0.36]
High school or less	-1.10 [-1.85; -0.36]*	-0.44 [-1.11; 0.24]
Parents Age	0.03 [-0.01; 0.07]	-0.01 [-0.05; 0.03]
IRSAD (Ref: 1st quintile)		
2nd quintile	-0.44 [-1.20; 0.32]	-0.14 [-0.89; 0.61]
3rd quintile	-0.42 [-1.10; 0.26]	-0.44 [-1.10; 0.22]
4th quintile	-0.75 [-1.41; -0.10]*	-0.44 [-1.08; 0.20]
5th quintile	-0.26 [-0.95; 0.43]	-0.35 [-1.01; 0.31]
R²	0.04	0.01
Goodness-of-Fit statistics	F(8, 682)=3.45, p<0.01	F(8, 702)=1.23, p=0.28
Number of Participants	691	711

Note: Models adjusted for caregiver education, parent age, and IRSAD. Robust standard errors were used to correct for heteroscedasticity.

Table 10: Association between device type and sleep disturbances (T-score) for 3- – 5-year-olds

Variable	Sleep Disturbance Tscore		
	Age 3 years	Age 4 years	Age 5 years
Static Devices (hrs/day)	0.01 [-0.58; 0.61]	0.82 [0.19; 1.46]*	0.25 [-0.62; 1.12]
Handheld Devices (hrs/day)	0.79 [0.17; 1.40]*	0.32 [-0.24; 0.87]	1.25 [0.36; 2.15]*
Parent/caregiver level of study (Ref: Postgrad)			
Graduate or Certificate	1.92 [0.29; 3.56]*	-0.35 [-2.39; 1.68]	1.53 [-1.36; 4.42]
High school or less	0.47 [-2.11; 3.05]	0.64 [-2.24; 3.52]	3.30 [-1.30; 7.90]
Parents Age	-0.09 [-0.20; 0.03]	-0.00 [-0.13; 0.12]	-0.14 [-0.39; 0.11]
IRSAD (Ref: 1st quintile)			
2nd quintile	0.04 [-2.99; 3.08]	-1.40 [-4.44; 1.65]	-0.79 [-5.39; 3.82]
3rd quintile	-1.63 [-4.38; 1.12]	-2.48 [-5.27; 0.30]	-0.37 [-4.34; 3.61]
4th quintile	-1.83 [-4.64; 0.97]	-2.76 [-5.51; -0.01]*	-0.71 [-4.67; 3.25]
5th quintile	-0.28 [-3.02; 2.46]	-2.99 [-5.75; -0.22]*	1.03 [-3.05; 5.12]
R²	0.03	0.03	0.05
Goodness-of-Fit statistics	F(9, 652)=2.33, p=0.01	F(9, 606)=2.15, p=0.02	F(9, 277)=1.66, p=0.10
Number of Participants	662	616	287

Table 11: Association between evening screen use and sleep disturbances (T-score) for 3- – 5-year-olds

Variable	Sleep Disturbances (T-score)		
	Age 3 years	Age 4 years	Age 5 years
Frequent Evening Screen Use (ref:Low/No)	2.27 [0.82; 3.72]*	2.76 [1.13; 4.39]*	2.86 [0.40; 5.31]*
Parent/caregiver level of study (Ref: Postgrad)			
Graduate or Certificate	1.74 [0.05; 3.42]*	-0.71 [-2.71; 1.28]	1.46 [-1.43; 4.35]
High school or less	0.71 [-1.86; 3.28]	0.46 [-2.24; 3.15]	3.81 [-0.60; 8.21]
Parents Age	-0.10 [-0.23; 0.02]	-0.02 [-0.15; 0.11]	-0.11 [-0.34; 0.13]
IRSAD (Ref: 1st quintile)			
2nd quintile	0.22 [-2.61; 3.06]	-1.23 [-4.15; 1.69]	-1.22 [-5.62; 3.18]
3rd quintile	-1.48 [-4.11; 1.14]	-2.36 [-5.05; 0.34]	-0.56 [-4.75; 3.63]
4th quintile	-1.69 [-4.33; 0.96]	-2.68 [-5.39; 0.03]	-1.13 [-5.23; 2.97]
5th quintile	-0.15 [-2.75; 2.46]	-2.76 [-5.57; 0.05]	0.55 [-3.66; 4.76]
R²	0.04	0.03	0.04
Goodness-of-Fit statistics	F(8, 653)=3.01, p<0.01	F(8, 607)=2.73, p=0.01	F(8, 278)=1.45, p=0.18
Number of Participants	662	616	287

Table 12: Association between device type and daytime sleep related impairment (T-score) for 3- – 5-year-olds

Variable	Sleep Related Impairment (T-score)		
	Age 3 years	Age 4 years	Age 5 years
Stratic Devices (hrs/day)	0.33 [-0.28; 0.94]	0.60 [-0.03; 1.24]	-0.20 [-1.11; 0.72]
Handheld Devices (hrs/day)	0.84 [0.21; 1.47]*	-0.26 [-0.82; 0.30]	0.62 [-0.33; 1.56]
Parent/caregiver level of study (Ref: Postgrad)			
Graduate or Certificate	1.16 [-0.57; 2.89]	1.01 [-0.99; 3.00]	1.52 [-1.51; 4.55]
High school or less	-0.64 [-3.31; 2.04]	0.71 [-1.99; 3.42]	1.35 [-3.30; 6.00]
Parents Age	-0.00 [-0.13; 0.12]	-0.09 [-0.22; 0.05]	-0.09 [-0.33; 0.16]
IRSAD (Ref: 1st quintile)			
2nd quintile	1.67 [-1.25; 4.60]	-4.00 [-6.95; -1.06]*	2.55 [-2.07; 7.16]
3rd quintile	-0.63 [-3.34; 2.08]	-4.05 [-6.76; -1.33]*	-1.45 [-5.85; 2.94]
4th quintile	-0.33 [-3.06; 2.40]	-3.63 [-6.38; -0.89]*	-0.13 [-4.44; 4.18]
5th quintile	1.42 [-1.27; 4.10]	-2.02 [-4.85; 0.81]	-0.67 [-5.12; 3.78]
R²	0.03	0.03	0.03
Goodness-of-Fit statistics	F(9, 652)=2.07, p=0.03	F(9, 606)=2.01, p=0.04	F(9, 277)=0.93, p=0.50
Number of Participants	662	616	287

Table 13: Association between evening screen use and sleep related impairment (T-score) for 3- – 5-year-olds

Variable	Sleep Related Impairment (T-score)		
	Age 3 years	Age 4 years	Age 5 years
Frequent Evening Screen Use (ref:Low/No)	2.12 [0.62; 3.61]*	0.15 [-1.49; 1.79]	1.39 [-1.19; 3.97]
Parent/caregiver level of study (Ref: Postgrad)			
Graduate or Certificate	1.03 [-0.71; 2.76]	0.98 [-1.03; 2.99]	1.46 [-1.57; 4.49]
High school or less	-0.34 [-2.99; 2.30]	0.76 [-1.95; 3.48]	1.49 [-3.14; 6.11]
Parents Age	-0.02 [-0.15; 0.11]	-0.09 [-0.23; 0.04]	-0.07 [-0.31; 0.18]
IRSAD (Ref: 1st quintile)			
2nd quintile	1.91 [-1.01; 4.83]	-3.82 [-6.76; -0.88]*	2.29 [-2.33; 6.90]
3rd quintile	-0.42 [-3.12; 2.29]	-3.96 [-6.67; -1.24]*	-1.49 [-5.89; 2.91]
4th quintile	-0.26 [-2.99; 2.47]	-3.50 [-6.23; -0.77]*	-0.42 [-4.73; 3.89]
5th quintile	1.47 [-1.22; 4.15]	-1.92 [-4.76; 0.91]	-0.76 [-5.17; 3.66]
R²	0.03	0.02	0.03
Goodness-of-Fit statistics	F(8, 653)=2.19, p=0.03	F(8, 607)=1.77, p=0.08	F(8, 278)=0.97, p=0.46
Number of Participants	662	616	287