



Impact of electronic screen time on psychological well-being, self-harm and suicidal tendencies of adolescents in Zhejiang, China

Jocelyn Ho¹, Therese Hesketh^{1,2}, Yedong Wu²

¹University College London, ²Zhejiang University

Introduction and Background

- According to WHO, mental health conditions account for 16% of the global burden of disease and injury in adolescents aged 10-19 years.
- Increased electronic screen time and social media exposure have become particularly problematic.
- Very few studies have examined the impact of screen-based behaviours and social media exposure on Chinese adolescent mental health, self-harm and suicidal tendencies.
- The aim of this research is to explore the prevalence, characteristics and impact of electronic screen time on psychological wellbeing, self-harm and suicidal tendencies of adolescents in Zhejiang, China.





Method

- 2830 self-reported questionnaire administered between 2019-2021
- Participants included students in grades 6-12 who were aged 11-21 in Zhejiang, China
- Age, gender, location, academic performance, self-reported health status and sleep duration were basic information collected
- Outcome measures included depression, anxiety, self-harm, suicidal thoughts and suicidal attempts
- Crude odds ratios were determined in bivariate analysis
- Adjusted odds ratios were obtained with binary logistic regression

Associations between electronic screen use and mental health measures

Males

	Depression		Anxiety		Self-harm		Suicidal Thought		Suicidal Attempt	
	Adjusted OR (95% CI) ^a	P-value	Adjusted OR (95% CI) ^a	P-value	Adjusted OR (95% CI) ^a	P-value	Adjusted OR (95% CI) ^a	P-value	Adjusted OR (95% CI) ^a	P-value
Time spent on electronic screens (hour/day)										
- <2	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
- ≥2	1.09 (0.8-1.49)	0.57	1.03 (0.68-1.56)	0.88	1.6 (1.1-2.37)	0.02	1.25 (0.93-1.66)	0.14	1.42 (0.87-2.31)	0.16
Time spent on mobile phones (hour/day)										
- <2	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
- ≥2	1.17 (0.85-1.6)	0.35	1.16 (0.77-1.76)	0.48	1.78 (1.2-2.63)	0.004	1.04 (0.77-1.41)	0.8	1.32 (0.79-2.21)	0.28
Time spent watching TV (hour/day)										
- <2	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
- ≥2	0.84 (0.39-1.8)	0.65	1.26 (0.51-3.13)	0.62	0.67 (0.22-2)	0.47	0.69 (0.33-1.46)	0.33	0.31 (0.04-2.34)	0.25

Females

	Depression		Anxiety		Self-harm		Suicidal Thought		Suicidal Attempt	
	Adjusted OR (95% CI) ^a	P-value	Adjusted OR (95% CI) ^a	P-value	Adjusted OR (95% CI) ^a	P-value	Adjusted OR (95% CI) ^a	P-value	Adjusted OR (95% CI) ^a	P-value
Time spent on electronic screens (hour/day)										
- <2	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
- ≥2	1.3 (0.94-1.81)	0.11	1.24 (0.83-1.85)	0.3	2.22 (1.58-3.12)	<0.001	1.64 (1.19-2.26)	0.002	2.78 (1.81-4.29)	<0.001
Time spent on mobile phones (hour/day)										
- <2	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
- ≥2	1.07 (0.77-1.48)	0.7	1.38 (0.93-2.05)	0.11	1.88 (1.34-2.65)	<0.001	1.61 (1.17-2.22)	0.003	2.22 (1.43-3.45)	<0.001
Time spent watching TV (hour/day)										
- <2	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
- ≥2	0.94 (0.51-1.75)	0.85	1.4 (0.68-2.89)	0.36	1.53 (0.8-2.95)	0.2	1.97 (1.04-3.75)	0.04	1.57 (0.69-3.56)	0.29

Ref=Reference category

^aAdjusting for physical health, academic performance, weekday sleep duration, weekend sleep duration and previous participation in mental health course

TARGET

3·4



**REDUCE MORTALITY
FROM
NON-COMMUNICABLE
DISEASES AND
PROMOTE MENTAL
HEALTH**

Implications and Conclusion

- This study contributes to the small amount of literature found on the impact of electronic screen use on the well-being of Chinese adolescents.
- Findings from this study can be used to design interventions which can improve the well-being of Chinese adolescents. Through increasing physical activity, encouraging longer sleep duration and implementing mental health courses at school.
- Specifically, restricting time on electronic screens and mobile phones, and gender specific approaches can improve the psychological well-being of Chinese adolescents and help China achieve SDG goal 3.4.