



## Screen Time and Psychological Well-Being among Children: The Moderating Effect of Parenting Styles

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### ABSTRACT

Children nowadays are reported to have low psychological well-being when exposed to too much screen time. Children usually imitate their parents' or adults' behaviour towards screen time or gadgets usage. Parents who spend too much screen time result in excessive screen time in their children, which leads to various problems in their social and cognitive development. This study aims to determine how parenting styles affect children's screen time and psychological well-being. In this context, screen-time is the amount of time spent on gadgets with the screen to watch videos, movies, or play games. To test the hypothesis that the amount of screen time does affect children's psychological well-being, an online survey was distributed and circulated among parents or primary caregivers staying in Kuala Lumpur and taking care of a child aged 3-6 years old. A series of questionnaires, including ones on demographic data, parenting style and domains, and strengths and challenges, are included in the survey. The analysis was conducted using Pearson correlation and multiple regression analysis in SPSS. There was a significant correlation between the amount of screen time and psychological well-being. The relationship between parenting style and the amount of screen time was not significant. Next, the interaction between the amount of screen time and parenting style was found to be not significant. Hence, the study concludes that parenting style does not affect the relationship between children's screen time and psychological well-being.

**Keywords:** screen-time, psychological well-being, parenting styles, children

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#### ARTICLE INFO

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<https://doi.org/10.33736/jcshd.4555.2022>

e-ISSN: 2550-1623

Manuscript received: 2 March 2022; Accepted: 21 September 2022; Date of publication: 30 September 2022

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## 1 INTRODUCTION

Children in the US have spent an average of 2 hours per day on the screen by playing with mobile phones, tablets, or TV, even though paediatricians had suggested that children spend only 1 hour per day on a screen, which positively affects their development. It was found that excessive screen time had a negative impact on children's behavioural, cognitive, and physical issues. Early exposure to gadgets was also suspected as one factor that causes Attention Deficit Hyperactivity Disorder (ADHD) in early-age children. When children spend most of their time playing with gadgets, they engage less in physical activities, thus causing obesity at a noticeably early age. They also reported having headaches in the morning after spending most of the night playing with mobile phones or gadgets (Hegde, Suman, Unais & Jeyakumar, 2019). Children are also prone to suffer from gadget addiction as they have poor coping mechanisms. Thus, they tend to find activities they are interested in without considering the harmful effects (Madigan, Browne, Racine, Mori, & Tough, 2019).

Additionally, exposure to technology or mobile gadgets has caused children's tender emotions to be replaced by aggressiveness and rudeness. It happened because the borderless world through gadgets has made them easier to be exposed to violent and aggressive content on the internet. Michael Condry, the chief operating and development officer of Sledgehammer Games, also stated that mobile phones and gadgets harm people's brains (Bhattacharyya, 2017).

Advanced technology development has brought both positive and negative impacts on the world. In their research, Hawi and Rupert (2015) stated that excessive screen time negatively affects children's behavioural and attitudinal measures. For example, children exposed to violent content easily accessible online are associated with aggressiveness, anti-social behaviours, depression, and psychological well-being. Parents especially are responsible for tightening their screen time rules for their children to avoid potential development, social, behavioural, and mental health problems among children. Some parents use screen devices to reward their children's good behaviour and punish them for their bad behaviour. The practice also caused excessive screen time among children when the parents did not control the screen time. However, the negative impacts of worrying about screen time on children's psychological development have become a significant concern among paediatricians as past studies reported that many children had exceeded the guideline by the American Academy of Paediatrics (AAP) in 2013 which suggested that children older than two years old to spend up to 2 hours of screen time per day only (Jago, Wood, Zahra, Thompson & Sebire, 2015). Research by De Decker, De Craemer, De Bourdeaudhuij, Wijndaele, Duvinage, Koletzko, and Zych in 2012 has stated that TV viewing has caused negative behaviour, low academic achievement, aggressiveness, and anti-social behaviour among young children. This study was designed to study the negative impact of excessive screen time on children's psychological well-being.

Khanna and Kapoor (2018) described how the amount of screen time among children with ASD is worrying and has contributed to their cognitive, developmental, and health issues. The Australian Department of Health suggested that children below the age of 2 not engage in any electronic gadgets, while children aged 2 to 5 only have no more than 1 hour per day as the limit time (Sweetser, Johnson, Ozdowska & Wyeth, 2012).

Research conducted by Atkin, Corder, and Van Sluijs (2013) aimed to determine the ownership and cross-sectional and longitudinal associations of bedroom gadgets such as TV or computer with children's passive physical behaviour. The longitudinal result showed negative associations between having a computer in the bedroom and changes in screen time at T4y. In addition, there was a positive association between bedroom media and children's screen time.

Kamarudin and Nasaruddin (2020) concluded that disruptive pro-social behaviour among school children could result from excessive usage of electronic media, requiring a lot of teacher effort to solve the issues. Tyastiti (2020) supported this result, who found that excessive smartphone or computer screens cause children to experience emotional discomfort and engage in aggressive behaviour. Excessive usage of mobile gadgets causes limitations in the development of children's motoric and social skills (Ayu, Titik Yuli, 2020).

However, Khiu and Hamzah (2018) found that there was only a weak correlation between gadget usage and psychosocial adjustment in preschoolers. Contradicting that, Twenge and Campbell (2018) found a high association between levels of screen time on children and adolescents' health that included behaviour problems, psychosocial health, well-being, and physical health.

Zhang et al. (2020) found that children with excessive screen time of more than 1 to 2 hours recommended by the American Pediatric Association were reported to have been exposed to the risk of having poor psychosocial well-being. Parent-child interaction was the mediating factor in the relationship between the children's excessive screen time and psychosocial well-being. Children who had negative parenting, including relaxed and strict parenting, were reported to have more screen time during the early years of life, while children who used screen time optimally were reported to have parents who practised positive parenting behaviour and good mother-child interaction (Detnakintra, Trairatvorakul, Pruksananonda & Chonchaiya, 2020).

A study claimed that parental screen time had a positive association with children's screen time, in which when parental screen time increased, the amount of children's screen time also increased (Birken, Maguire, Mekky, Manlhiot, Beck, Jacobson, ... & Parkin, 2011). Research by Lee, Hesketh, Rhodes, Rinaldi, Spence, and Carson (2018) showed that higher parental modelling screen time resulted in higher children's screen time. This result was also supported by a study from Goncalves, Byrne, Viana, and Trost (2019) that also found that parental screen time had a positive association with children's screen, either directly or indirectly.

Sakina and Latifah (2019) conducted a study to analyse the impacts of mother-child attachment and parental control on gadget use on a child's addictive behaviour towards gadgets. The result showed a negative influence on children's addictive levels, parental control of gadgets, and mother-child attachment. This result was aligned with the study by Barr-Anderson, Fulkerson, Smyth, Himes, Hannan, Rock, and Story (2011). They found that fewer children's screen time was reported in households with limited screen time for their parents.

Sowmya and Manjuvani (2019) revealed that 20% of preschool children used electronic gadgets during weekdays and 39% during holidays. In addition, 32%, 19%, 17%, and 7% of parents regulate their children's screen time for 1 hour, 2 hours, half an hour, and 3 to 4 hours per day, respectively. The researcher concluded that 25% of parents do not regulate their children's screen time.

Langer, Crain, Sendo, Levy, and Sherwood (2014) conducted a study that showed that authoritarian and permissive parenting styles were associated with increasing screen time by more than 2 hours daily. The phenomenon was also aligned with research by Howe, Heath, Lawrence, Galland, Gray, and Taylor (2017), where they found that toddlers with authoritarian and permissive parents spent more than one hour on television viewing, which is more than the suggested screen time proposed by American Academy of Pediatrics (2014). Parents with low restrictions against sedentary activities among children caused the children to exceed TV viewing. In addition, TV viewing was also high among children who perceived their mother as permissive compared to an authoritative mother (Jago et al., 2011).

## **2 MATERIALS AND METHOD**

Two hundred fifty parents from Kuala Lumpur, Malaysia, were recruited for this research. 73 (29.2%) are males and 177 (70.8%) are females. The majority are in the range of 30 to 39 years old (n=115, 46.0%), and the least were 7 (2.8%) of the respondents aged 50 and above. Regarding their race, 71.2% (n=178) of the respondents who participated in the survey are Malay, and 7.6% (n=19) are Indian. Of the total number of 250 respondents, most of them were married, with 88.8% (n=222) and only 0.4% (n=1) were separated (not living together). Meanwhile, in terms of the highest level of background education, the majority, 64.0% (n=160) of the respondents, graduated with Bachelor's Degree, and only 1.6% (n=4) of them were PhD holders.

The research was conducted through an online survey circulated among parents living in Kuala Lumpur. The participants were recruited according to their willingness and availability of participants. Participants were given informed consent to ensure the participation was voluntary and the participants' information was confidential.

Two instruments were used in this research, the Parenting Styles and Dimensions Questionnaire-Short Version (PSDQ) and the Strength and Difficulties Questionnaire (SDQ). Internal consistency reliability for PSDQ was reported to be .86, .82, and .64 for Authoritative, Authoritarian, and Permissive parenting styles, respectively (Yaffe, 2018). Meanwhile, the internal consistency for SDQ was reported acceptable with Cronbach's Alpha 0.74 (Goodman, 1994).

Parenting Styles and Dimensions Questionnaire- Short Version (PSDQ) developed by Robinson et al. (2001) was used to determine the parenting styles practised by parents or caregivers. The questionnaire was developed by Robinson et al. (1995) and initially consisted of 60 items. The answers are on a 5-point Likert scale of 1 (never), 2 (seldom), 3 (sometimes), 4 (frequently), and 5 (always). When the demand for a condensed version of PSDQ was getting high, Robinson et al. (2001) revised the previous questionnaire and maintained only 32 items with three dimensions of parenting styles which are authoritative, authoritarian, and permissive.

The Strength and Difficulties Questionnaire (SDQ) was used for parents to rate their children's psychosocial adjustment. It was first developed by Goodman (1994). This questionnaire was chosen because of its simplified format and ease of administering. The total number of items in this questionnaire is 25, divided into five subscales of emotional, conduct, hyperactivity, peer problems, and pro-social skills, with a Likert scale, answers on a 3-point scale which is Not True, Somewhat True, and Certainly True. Written informed consent was obtained from all respondents.

### 3 RESULTS AND DISCUSSION

Pearson's correlation test was used to examine the relationship between children's screen time and psychological well-being, parenting style, and children's screen time. The results (Table 1) showed significant relationships between children's screen time and psychological well-being. However, there was no significant correlation between parenting style and children's screen time,  $r = .070$ ,  $p > 0.05$  (Table 2). Besides that, results (Table 3) showed that there was also no effect of parenting style on the relationship between children's screen time and psychological well-being (Beta =  $-.014$ ,  $p > 0.05$ ).

**Table 1.** Correlation between children's screen time and psychological well-being.

		Psychological well-being	
<b>Amount of screen time</b>	Pearson Correlation	0.139	Note : * $p < 0.05$
	Sig. (2-tailed)	0.028*	
	N	250	

**Table 2.** Correlation between parenting style and amount of screen time.

		<b>Parenting style</b>	
<b>Amount of screen time</b>	Pearson Correlation	0.070	
	Sig. (2-tailed)	0.269	
	N	250	

Note : \*p<0.05

**Table 3.** Moderating effect of parenting style on the relationship between children's screen time and psychological well-being.

<b>Variables</b>	<b>Unstandardised Coefficients</b>		<b>t value</b>	<b>p-value</b>	<b>95.0% Confidence Interval for B</b>	
	<b>B</b>	<b>Std. Error</b>			<b>Lower Bound</b>	<b>Upper Bound</b>
(Constant)	17.398	10.927	1.592	0.113	-4.125	38.921
HoursST	2.160	4.592	0.470	0.638	-6.884	11.204
ParentingStyle	0.244	0.120	2.027	0.044	0.007	0.481
PSxST	-0.014	0.050	-0.284	0.777	-0.114	0.085

R<sup>2</sup> = 0.144

An excessive amount of gadgets or screen time is possibly linked with Attention Deficit and Hyperactivity Disorder (ADHD) among children. Previous research reported that children with excessive screen time tend to have hyperactivity problems, tantrums, and aggressive behaviour (Hegde, Suman, Unais & Jeyakumar, 2019). A recent study in 2020 conducted by California, Pawito, and Prasetya also found that screen time impacts children's emotional and social development and behaviour, such as decreasing the opportunity for them to interact with parents and friends physically, thus affecting their well-being. Children with too much screen time tend to be aggressive or throw tantrums when their parents ask them to stop using it. This led to a more grave issue: gadget addiction among young children (Ayu, Titik & Yuli, 2020). Twenge and Campbell (2018) also reported that higher screen time is significantly associated with lower psychological well-being. However, another study reported little or no significant correlation between digital screen use and psychological well-being (Przybylski & Weinstein, 2019).

This study's findings showed no significant difference between these variables. However, authoritative and permissive parenting styles did affect children's screen time, while authoritarian parenting styles had no significant effect on children's screen time. Schoeppe, Vandelanotte, Bere,

Lien, Verloigne, Kovács, and Van Lippevelde (2017) supported these findings as they found that parents spent more time with their children doing physical activities, for instance, had children with less screen time consumption. They emphasised that children usually observe what their parents do and imitate them. The same results were found in a study conducted by Van der Geest, Mérelle, Rodenburg, Van de Mheen, and Renders (2017), where they found that authoritative parenting style was associated with lower sedentary screen time among children while neglectful or permissive parenting styles were significant with higher sedentary screen time. Authoritarian and permissive parents increase children's television time as they lack communication and parental detachment (Howe, Heath, Lawrence, Galland, Gray, Taylor, ... & Taylor, 2017).

Unexpectedly, parenting style has no effect on the relationship between children's screen time and psychological well-being. The hypothesis was rejected. Wong et al. (2020) found that parents who interact less with their children because of mobile phone usage were associated with children's increasing screen time, thus affecting children's psychosocial problems. Children were reported to show more externalising behaviour when there was less involvement from parents and increased children's screen time. This finding was also supported by Zhao, Zhang, Jiang, Ip, Ho, Zhang, and Huang (2018) in their study, in which the result showed that parent-child interaction had a mediating effect on children's screen time and psychosocial well-being. They found that reduced parent-child interaction increased children's screen time, thus decreasing their psychosocial well-being.

#### **4 CONCLUSION**

There were some limitations while conducting this study. First, the sample size of this study was too small. Thus, it was hard to get meaningful results. Statistical tests require a large sample size to ensure the distribution of the population was correctly represented by the sample size and to generalise the results to the expected population.

Future research might include an interview with parents and observation of children's behaviour to obtain more trustworthy results that are not biased by the parents' self-reported data. Next, should have a bilingual questionnaire could aid in the collection of precise data from respondents, as there are people in Malaysia who are only fluent in Malay or English; thus, to be fair to both groups of people, future researchers should translate the questionnaires from English to Malay before providing both languages to the respondents.

In conclusion, the amount of screen time was found to affect children's psychological well-being positively. This study categorised psychological well-being into five domains: emotional symptoms, conduct problems, hyperactivity, peer problem, and pro-social behaviour. From the result, it can be concluded that increased screen time would only increase children's conduct problems. However, the amount of screen time did not significantly affect emotional symptoms, hyperactivity, peer problem, and pro-social behaviour. Also, it can be concluded that parenting

styles showed no moderation effect on the relationship between the amount of screen time and other psychological well-being such as conduct problems, peer problems, hyperactivity, and pro-social behaviours

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