



Relationship between Parental Attachment, Parental Dependency on Mobile Phone and Screen Time among Adolescents

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Article Information

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Abstract

The purpose of the study was to investigate the associations between parental attachment, parental mobile dependency and screen time among adolescents. Multistage cluster sampling method was used to recruit 180 respondents in Selangor, Malaysia to participate in this correlational study. The respondents were the parents of adolescents within the 13- to 17-year-old age bracket (Mean age=14.86; 87 males and 93 females). The questionnaires used included a screen time survey, Parental-child attachment scale (PCAS) and Smartphone Addiction Scale (SAS). Parental attachment was negatively linked with screen time among adolescents ($r=-.609$; $p<.001$) wherein parental dependency on the mobile phone was positively associated ($r=.570$, $p<.001$). The main findings indicated that adolescents with a parent who has high parental attachment and low parental mobile phone dependency is more likely to engage in lesser screen time. The strongest predictor was revealed to be parental mobile phone dependency ($\beta=-.411$, $p<.001$). Age was found non-significantly correlated to screen time, but the screen time was significantly different between gender. Males adolescents had longer screen time ($p<.001$).

INTRODUCTION

According to the Malaysian National Health and Morbidity Survey (NHMS; Institute for Public Health, 2018), 6 in 7 adolescents were active internet users, while 2 in 7 were addicted to the internet. It was further indicated that 94% of internet addicts used the smartphone to perform online activities (Institute for Public Health, 2018). In addition, adolescents in Malaysia were reported to spend around 3 hours a day online (Institute for Public Health, 2018; Murugesan, Hamzaht, & Supriyanto, 2018). A total of 87% of Malaysia adolescents reported spending time on screen to the extent that it is interrupting their sleep (Malaysian Communications and Multimedia Commission, 2017a; 2017b). Compared to children, adolescents have a higher chance of mobile device ownership (Bucksch et al., 2016; Kabali et al., 2015; Kumar & Sherkhane, 2018). Based on past studies, children could be exposed to a n electronic device easily and at a very young age due to their normalized use in the past decade (Kabali et al., 2015; Kumar & Sherkhane, 2018). In particular, Malaysian children were mostly

first exposed to media use at 5 years old and are able to own a device as young as when they are 12 years old (Malaysian Communications and Multimedia Commission, 2017a; 2017b).

Ideal screen time for an adolescent in a day should be within 2 hours as suggested by the past researches (Goldfield et al., 2016; Furthner et al., 2017). However, based on the statistical evidence, adolescents living in this era tend to spend more than 2 hours on screen-related activities in a day, mostly for leisure activities (Department of Statistics Malaysia, 2017; Malaysian Communications and Multimedia Commission, 2017).

Age was one of the factors associated with screen time wherein the older the children, the higher the screen time (Bucksch et al., 2016; Lloyd, Lubans, Plotnikoff, Collins, & Morgan, 2014; Sanders, Parent, Forehand, Sullivan, & Jones, 2016). Hence, the risk of excessive internet use is higher among the older adolescent population who have the highest percentage of ownership of mobile devices.

Other than being affected by environmental factors, adolescents also tend to see having screen time as a normal activity and as being in trend to engage in screen-related activities (Kalogeraki & Papadaki, 2010; Minges et al., 2015; Toh, Howie, Coenen, & Straker, 2019). This is especially as most of their peers and even parents are communicating with each other on-screen nowadays rather than having face-to-face interactions.

There is a lack of awareness on this excessive screen time issue, especially the drawbacks of the screen time-related activities. Psychological problems such as anxiety or sleep issue could be a result of those activities while the risks of sedentary behaviours and obesity has been shown to be higher among those who had higher screen-time (Busch, Ananda Manders, & de Leeuw, 2013; Christensen et al., 2016; Maras et al., 2015; Mitchell, Rodriguez, Schmitz, & Audrain-McGovern, 2013; Parasuraman, Sam, Wong, Chuon, & Lee, 2017; Twenge, Joiner, Rogers, & Martin, 2017). In short, excessive screen time issue is an alarming issue which needs to be investigated, so that interventions and strategies to overcome this social issue could be proposed.

LITERATURE REVIEW

When being questioned about the way to manage the screen-time of a child, most people suggested parental control strategies through which parents obtain the autonomy regarding a child's electronic device usage (Sebire, Jago, Gorely, Cillero, & Biddle, 2011). In fact, previous studies claimed that the parental control method might be beneficial to manage children in early childhood or primary school age (Padilla-Walker, Coyne, & Collier, 2016) rather than intervening when the child is older. Besides, externalizing behaviours were shown by adolescents who were being controlled on their screen-related activities (Sanders, Parent, Forehand, Sullivan, & Jones, 2016).

Based on Erik Erickson's theory, a possible explanation of the ineffective parental control method could be the children in the adolescent development stage were striving for the sense of being independent. In addition, they were in the process of establishing their self-identity (Santrock, 2013). As a result, they may not comply to parental demands of screen-time restrictions, as numerous studies have shown that adolescents did not take the restrictions on screen-time enforced by their parents seriously (Padilla-Walker, Coyne, & Collier, 2016; Toh, Howie, Coenen, & Straker, 2019; Vaala & Bleakley, 2015). Therefore, there is a concern that as parental control strategies worked only for younger children, the parental role in dealing with adolescents' screen-time issue may be inadequate to address the adolescent's excessive usage.

One of the factors influencing an adolescent's screen time may be his or her attachment to the parent. Based on the Ecological Theory by Bronfenbrenner (1977), it was suggested that parents are the closest and most influential members in a child's growing environment. In addition, numerous researches had revealed that parental mediating and modelling strategies could be effective in handling screen time among adolescents (Kerns, Aspelmeier, Gentzler, & Grabill, 2001; Lloyd, Lubans, Plotnikoff, Collins, & Morgan, 2014; Nickerson & Nagle, 2005; Padilla-Walker & Coyne, 2011).

Another variable affecting children's screen time is parental dependency on mobile devices. For example, parental time spent on screen-related activities like watching television and playing games were associated with increased adolescents' screen time (Te Velde et al., 2011). A parent's behaviour in relation to screen-related activities could possibly affect his or her adolescent's behaviour (Jordan, Hersey, McDivitt, & Heitzler, 2006; He, Piché, Beynon, & Harris, 2010). When a parent engages in longer screen time behaviour, the adolescent tends to get lesser control and restrictions on screen time as well (Sanders, Parent, Forehand, Sullivan, & Jones, 2016).

In overall, there is a need to deal with adolescents' excessive screen time issue, and one of the ways to further understand this phenomenon is to examine its association with parental attachment and parental dependency on mobile phones.

RESEARCH QUESTIONS AND HYPOTHESES

Due to the lack of research done in the adolescent population, a quantitative survey study was conducted with the following research questions:

1. Are there significant relationships between adolescents' age, parental attachment, parental dependency on mobile phone and screen time among adolescents?
2. Is there a significant difference in screen time between adolescent males and females?
3. What are the unique predictors that predict screen time among adolescents?

Five hypotheses were formed as below:

H_{a1}: There is a significant relationship between adolescent's age and screen time among adolescents.

H_{a2}: There is a significant difference in screen time between male and female adolescents.

H_{a3}: There is a significant relationship between parental attachment and screen time among adolescents.

H_{a4}: There is a significant relationship between parental dependency on mobile phone and screen time among adolescents.

H_{a5}: The regression coefficients for the selected variables do not equal to zero when being regressed again screen time among adolescents.

METHODOLOGY

Participants

One hundred and eighty participants were recruited using a multistage cluster sampling method. The respondents were the parent with adolescents aged between the age of 13 to 17 years and owned a mobile screen device. The research was done in Selangor which is the state found to be having the greatest number of adolescents, the highest number of smartphone users and internet users in Malaysia (Department of Statistics Malaysia, 2019; Malaysian Communications and Multimedia Commission, 2017a; 2017b). Among the districts, five districts were randomly selected based on the geographical location.

Procedure

An explanation of the study was given to the participants before signing the informed consent form. Then, the participants filled in the distributed questionnaires and submitted to the researcher once completed. Participants were assured that their data will be kept confidential.

Measures

On a 4-point Likert scale, the screen time was measured by answering the question of "How many hours does your child engage with his/her mobile screen device on average in a day?" The possible answers include "Less than 2 hours a day", "2 to 4 hours a day", "5 to 7 hours a day" and "8 hours and above a day" (Bucksch et al., 2016; Richards, McGee, Williams, Welch, & Hancox, 2010; Kabali et al., 2015; Sanders, Parent, Forehand, Sullivan, & Jones, 2016).

Parental attachment was assessed by the Parental-child attachment scale (PCAS) with 4-point Likert scale (1-"Never"; 2-"Sometimes"; 3-"Seldom"; 4-"Often") (Dahlberg, Toal, Swahn, & Behrens, 2005; Thornberry, Lizotte, Krohn, & Farnworth, 1991). All the 11 items measured parental opinion on the parent-child relationship.

A 33-item Smartphone Addiction Scale was used to measure parental mobile phone dependency (Kwon et al., 2013). It was a 6-point Likert scale ranging from "1" being "Strongly disagree" to "6" being "Strongly agree" (Kwon et al., 2013). Both have good and high internal reliabilities (PCAS Cronbach's alpha=.854; SAS Cronbach's alpha=.956).

RESULTS

The relationships between parental attachment, parental mobile phone dependency and screen time among adolescents were tested by using Pearson Correlation. Based on the table shown in Table 1, there was a significant negative correlation between parental attachment and screen time among adolescents ($r=-.609$, $p<.001$). Hence, the more the attached parent-adolescent relationship, the lesser the screen time among adolescents.

Similarly, the relationship between parental mobile phone dependency was associated significantly with screen time among adolescents in a positive direction ($r=.570$, $p<.001$). However, the relationship between adolescents' age and screen time was found to be not significant ($p>.05$).

TABLE 1
TABLE OF CORRELATION ANALYSES

Variables	r	p
Age	.108	.150
Parental Attachment	-.609***	<.001
Parental Dependency on Mobile Phone	.570***	<.001

Note. *p<0.05, **p<0.01, ***p<0.001

An independent samples t-test was performed to assess the difference in screen time across gender. Results (Table 2) showed that female adolescents had lesser screen time compared to males. Furthermore, a multiple linear regression was conducted to test whether the chosen variables significantly predicted the screen time among adolescents. Based on Table 3, a significant regression equation was revealed $F(4,175) = 36.23$, $p < .001$ with an R^2 of .453. Among the variables, the significant predictors included the gender ($\beta = -.124$, $p = .04$), parental attachment ($\beta = .275$, $p < .001$) and parental mobile phone dependency ($\beta = -.411$, $p < .001$).

TABLE 2
DIFFERENCE MEASURES IN BETWEEN MALE AND FEMALE ADOLESCENTS

Variables	Gender				t	p
	Male		Female			
	Mean	SD	Mean	SD		
Screen Time	2.690	.9189	2.097	.767	4.682***	<.001

Note. *p<0.05, **p<0.01, ***p<0.001

TABLE 3
MULTIPLE REGRESSION ANALYSIS FOR DEPRESSION

Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error			
Age	.032	.040	.045	1.018	.427
Gender	-.221	.107	-.124*	-2.055	.041
Parental Attachment	-.008	.002	.275***	3.789	<.001
Parental Mobile Phone Dependency	-.059	.010	-.411***	-5.911	<.001

Note. $R^2 = .453$, Adj. $R = .440$; $F = 36.23$, $p < .001$
*p<0.05, **p<0.01, ***p<0.001

DISCUSSION

The research findings suggested that there is a significant positive relationship between parental attachment and adolescents' screen time. This is in line with the results of past studies (Eroglu, 2016; Lloyd, Lubans, Plotnikoff, Collins, & Morgans, 2014; Rao & Madan, 2013; Soh, Charlton, & Chew, 2014). Soh et al. (2014) revealed that adolescents with highly attached parent-child relationship had lower screen time. Rao and Madan (2013) also supported by the investigation in internet addiction whereby the secure attachment style was found to link to lower internet usage.

The reasons could be the adolescents having higher parent-child attachment would generally receive more parental attention on screen time use. Past researches had concluded that insecure attachment or non-active parent-child interaction would lead to increased children's screen time (Gingold, Simon, & Schoendorf, 2013; Moretti & Peled, 2004; Padilla-Walker & Coyne, 2011; Warner, 2005). Probably the lack of parental care and monitoring were contributing to it. This is further supported by the research evidence that positive parenting

styles and a positive parent-child relationship would lead to lesser screen time among children (Gingold, Simon, & Schoendorf, 2013; Padilla-Walker & Coyne, 2011).

Apart from that, the research findings also presented the significant relationship between parental mobile phone dependency and screen time among adolescents. This could be due to parental modelling effects. In the previous research, Te Velde et al. (2011) found that parents who tend to spend their time on screen devices would have the children who engage in a high frequency of screen time as well. Hence, parents' own behaviours on screen-related activities seem to be important in managing screen time among adolescents. These results were supporting the Ecological Theory with Techno-subsystem which parents play the vital role as the environmental factor that could affect the children's attitudes or behaviours (Johnson, 2010; Johnson & Ptoplampu, 2008).

Based on the past studies, age was positively linked to the screen time among adolescents (Kumar & Sher Khan, 2018; Lauricella, Cingel, Blackwell, Wartella, & Conway, 2014). Unexpectedly, adolescents' age was found not significantly associated with screen time in the current study. The possible explanation for the inconsistency might be the recent scenario of children in this generation generally being used to media use at a very young age (Baboo, Prasad, Pandian, & Rao, 2013; Malaysian Communication and Multimedia Commission, 2017a). On the other hand, a gender difference in screen time was found wherein males tended to have longer screen time. This is in line with the works done by others (Jiang, Hardy, Ding, Baur, & Shi, 2014; Wang et al., 2018), claiming that females spent lesser time on screen-related activities.

There were several limitations in the current research. Firstly, there is a lack of inclusion of other antecedent variables. Based on previous research, possible variables like socioeconomic status, academic results, family background and parent's education (Garcia-Contiente, Perez-Gimenez, Espelt, & Adell, 2013; Sirard et al., 2013) could yield significant associations. Future research should consider to include these as background variables.

The qualitative method or mixed-method research approaches can be employed to help with the participants bias that might have occurred in the current research. Moreover, further exploration could be done on the parental attachment aspect in term of the type of attachment or parenting styles. Lastly, a more diversified and larger sample size can be included to generate higher generalizability on Malaysian population.

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