

Does parenting style work on gadget addiction? A cross-sectional study among adolescence

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Abstract

Background: The increasing dependence on gadget use among adolescents which has a negative impact on their growth and development, requires increased parental supervision and appropriate parenting patterns.

Purpose: This study aims to identify the relationship between smartphones addiction and the characteristics of young people, as well as the parenting styles of both fathers and mothers in Samarinda.

Method: The study employs an analytical survey that measures the level of gadget addiction in teenagers and the influencing factors, including demographics, parenting styles, and gadget usage factors such as perception of addiction, usage purpose, and peer influence. The sample criteria include teenagers who own their gadgets, aged 13-19, actively use them for communication and internet access. Resulting in a sample size of 79 adolescents by purposive sampling technique, and using a self-administered questionnaire. Bivariate analysis is used to test the relationship between variables (correlation tests).

Result: The correlation table shows that smartphone addiction is strongly correlated with daily life disturbance ($r = 0.565$, $p < 0.01$), positive anticipation ($r = 0.760$, $p < 0.01$), withdrawal ($r = 0.829$, $p < 0.01$), cyberspace relationship ($r = 0.727$, $p < 0.01$), overuse ($r = 0.742$, $p < 0.01$), and tolerance ($r = 0.490$, $p < 0.01$). Among parenting styles, only permissive father ($r = 0.282$, $p < 0.05$) and permissive mother ($r = 0.298$, $p < 0.01$) show significant positive correlations with smartphone addiction.

Conclusion: The study concludes that there is a significant relationship between parenting styles, particularly permissive in overall smartphone addiction and democratic styles in aspect of tolerance. It suggests that interventions targeting parenting practices. The clearer, more specific, and targeted restrictions on gadget use are needed, particularly for parents who adopt a permissive parenting style.

Keywords: *gadget usage; smartphone addiction; parenting style; permissive parenting*

INTRODUCTION

The rapid development of technology, especially gadgets or smartphones, is evident (S. Cha & Seo, 2018). The increase in gadget users in Indonesia significantly rose from 15% in 2014 to 51% in 2017. This places Indonesia as the country with the highest internet user growth, more than five times the global average in 2016-2017 (Machmud, 2018; vserv S.U.P.R, 2017)

Based on the gadget usage data in 2015 (vserv S.U.P.R, 2017), it is known that 45% of the population uses gadgets for entertainment activities. This is similar to neighboring countries such

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as Malaysia, the Philippines, and Thailand, where the majority of usage is for social networking and chat applications (Norbaidurah Ithnain, Shazli Ezzzat Ghazali, & Norrafizah Jaafar, 2018)

The highest average gadget users in Indonesia are 30% aged 18-24 years, or those who are adolescents (vserv S.U.P.R, 2017). The use of gadgets or smartphones has become one of the activities for adolescents that provide psychological comfort (Kim, Min, Min, Lee, & Yoo, 2018). At the same time, this condition raises new concerns, namely the emergence of risks of gadget addiction and its misuse leading to several deviant behaviors among adolescent (Lee & Ogbolu, 2018; Ratri Desiningrum, Indriana, & Siswati, 2017) Excessive gadget use can also lead to physical symptoms, pathological addiction, depression, symptoms of fear, anxiety, as well as decreased productivity and low academic achievement (Yildiz Durak, 2019)

Adolescents are a high-risk group for gadget addiction. They are very attached to smartphones. Developmentally, adolescents undergo physical and psychological changes. Meanwhile, on the other hand, they rely on parents to support their lives and identities. At the same time, they also try to become independent from their parents to build their identity and create a space for independence for themselves. During these changes, smartphones are essential for adolescents (S. Cha & Seo, 2018). They can express their thoughts in online spaces, try to follow trend developments, use various types of applications, or social networks to seek relationships and emotional support (S. S. Cha & Seo, 2018; Kwan & Leung, 2015). To address the psychological and physiological problems that may arise from gadget addiction behavior, one recommendation is to increase parental control through parenting styles applied in daily life (Kim et al., 2018; Parasuraman, Sam, Yee, Chuon, & Ren, 2017). Parents are more concerned about their children who use gadgets for games than for knowledge enhancement (Ratri Desiningrum et al., 2017).

Parenting styles are forms of attitudes and interactions towards children. Interactions include parenting styles, guidance, and efforts to describe values and norms that apply to social processes in society (Lee & Ogbolu, 2018; Suherman, Saidah, Nurhayati, Susanto, & Huda, 2021). Parenting styles also play a role in shaping a child's character, with parenting styles divided into three types: authoritarian, permissive, and democratic (Nugraheni, 2017). Based on previous research, it is known that adolescent online game addiction is influenced by specific parenting styles. Authoritarian parenting style has a negative relationship with online game addiction, while permissive or neglectful parenting styles have a positive relationship with online game and smartphone addiction (Abedini, Zamani, & Kheradmand, 2012).

Smartphone addiction is a growing concern in Samarinda, the capital city of East Kalimantan province in Indonesia. According to the results of a survey by the Indonesian Internet Service Providers Association (APJII) in 2018, as many as 67.8% of the population of East Kalimantan use the internet (Ari Jumaidah, Ekawaty, Lisu Parande, & Nurlaila, 2022; Nikmah & Lubis, 2021). This survey shows that internet access in East Kalimantan has increased significantly in recent years, although there are still around 32.2% of the population who have not been touched by internet technology, and Samarinda as the provincial capital has a high level of accessibility in the use of gadgets. The increasing availability and affordability of smartphones, many residents, particularly the younger generation, have become heavily reliant on these devices (Setiawan & Yuliani, 2021). The study shows an increase in the average level of gadget usage dependence among preschool children during the Covid-19 pandemic compared to before (Gutiérrez, de Fonseca, & Rubio, 2016; Kalsum & Purwanto, 2023). It is also added that gadget addiction among children and adolescents in Samarinda can have negative impacts on their

mental, emotional, and behavioral development, as well as sleep disturbances, anxiety, stress, and difficulties in socializing (Kalsum & Purwanto, 2023; Wang et al., 2018). Based on these descriptions, this study aims to identify the relationship between addiction behavior in using gadgets or smartphones with the characteristics of young people and the parenting styles of both fathers and mothers in Samarinda.

METHOD

This analytical survey research measures the level of gadget addiction among adolescents and the influencing factors, including demographic factors (age, education level, BMI, gender, and family status), parenting styles, and gadget usage based on ownership, time spent, addiction perception, purpose of use, and peer influence. The study was conducted in Bukuan sub-district, one of the districts in Samarinda. The population of this study consisted of adolescents aged 10-24 years, identified from field learning experiences, with the sample criteria being adolescents who own their own gadgets, actively use gadgets for communication and internet access, resulting in a sample size of 79 adolescents who meet these criteria. The sampling technique used was judgmental sampling. This research used a questionnaire as a data collection tool, where the questionnaire used had passed the validity test in a study titled The Smartphone Addiction Scale (Kwon, Kim, Cho, & Yang, 2013). The Cronbach's alpha of smartphone addiction was (0.885), this questionnaire was adopted without altering its content or other aspects. Parenting style instruments have been used the parental authority questionnaire (PAQ) in Indonesia version with Cronbach's alpha 0.704 (Afriani, Baharudin, Siti Nor, & Nurdeng, 2012; Alkharusi, Aldhafri, Kazem, Alzubiadi, & Al-Bahrani, 2011).

The current study assessed the validity and reliability of two instruments: the Smartphone Addiction scale and the Parental Authority Questionnaire (PAQ). The Smartphone Addiction scale yielded a validity coefficient of 0.775, indicating its effectiveness in measuring levels of smartphone addiction among participants. This finding supports its utility as a valid tool for assessing smartphone dependency within the study's scope. Meanwhile, the PAQ demonstrated a reliability coefficient of 0.816, highlighting its strong internal consistency in measuring various dimensions of parental authority. This reliability ensures that the PAQ produces consistent and trustworthy results regarding parental authority dynamics, crucial for understanding its impact on adolescent behavior and development. The variables in this study were obtained in the form of ordinal and ratio scales. Ordinal and ratio variables will be descriptively analyzed by displaying bar graphs showing the relationship between gender, education level, family status, parenting style, and addiction level with gadgets. Bivariate analysis to prove the relationship between variables will be conducted using correlation tests.

RESULT

Here are the results of the analysis in the study about Parenting styles on gadget addiction among adolescents in Samarinda, Indonesia.

Table 1
Sociodemographic and Differences of Smartphone Addiction Based on Groups Characteristics

Characteristics	Categories	n	%	Smartphone Addiction			
				M	SD	t or F	p-value
Gender	Male	33	41.8	3.47	0.56	0.347	0.128
	Female	46	58.2	3.26	0.62		
Education level	Primary school	2	2.5	3.57	0.06	0.266	0.849
	Junior high school	28	35.4	3.40	0.53		
	Senior high school	41	51.9	3.31	0.67		
	College	8	10.1	3.27	0.64		
Addiction perceived	Perceived addiction of gadgets	14	17.7	3.50	0.63	1.223	0.300
	Not perceived gadgets addiction	47	59.5	3.26	0.61		
	Not known	18	22.8	3.45	0.55		
Purposes of gadget use	Communication	52	65.8	3.29	0.61	1.155	0.320
	Entertainment and games	15	19.0	3.56	0.64		
	Internet access	12	15.2	3.29	0.52		
Friend effect perceived	Yes	30	38.0	3.41	0.50	0.791	0.431
	No	49	62.0	3.30	0.66		
BMI	Underweight (<18.5)	33	41.8	3.29	0.69	0.154	0.927
	Normal (18.5–24.9)	37	46.8	3.39	0.51		
	Overweight (25.0-29.9)	5	6.3	3.31	0.58		
	Obese (>30.0)	4	5.1	3.42	0.90		

The data shows that a percentage of female respondents (58.2%) and male respondents (41.8%) experienced smartphone addiction, and this difference was not statistically significant. Regarding education level, the majority of respondents were in senior high school (51.9%) followed by junior high school (35.4%), with lower percentages in primary school (2.5%) and college (10.1%). Additionally, most respondents did not perceive themselves as addicted to gadgets (59.5%), used smartphones mainly for communication purposes (65.8%), and did not perceive a friend effect on their smartphone use (62.0%). The distribution of respondents across different BMI categories (underweight, normal, overweight, obese) was relatively balanced, ranging from 5.1% to 46.8%, with no significant differences in smartphone addiction observed among these groups.

Based on the data on table 2, the average score for smartphone addiction was 3.35, indicating a moderate level of addiction among the participants. This suggests that smartphone use may be a significant issue among adolescents in this population. The range of scores from 1.41 to 4.66 indicates variability in smartphone addiction levels among individuals, with some experiencing lower levels of addiction and others experiencing higher levels.

Table 2
Descriptive Statistics for Smartphone Addiction and Parenting Style

Variables	M (SD)	Minimum	Maximum
Smartphone Addiction	3.35 (0.06)	1.41	4.66
Daily life disturbance	3.55 (0.92)	1.20	5.20
Positive anticipation	3.54 (0.72)	1.75	5.00
Withdrawal	3.06 (0.84)	1.50	5.00
Cyberspace oriented relationship	3.01 (0.83)	1.00	5.29
Overuse	3.43 (0.96)	1.25	5.50
Tolerance	3.83 (1.03)	1.33	5.67
Parenting style			
Authoritarian father	0.43 (0.17)	0.00	0.83
Authoritarian mother	0.46 (0.21)	0.00	0.83
Permissive father	0.36 (0.17)	0.00	0.86
Permissive mother	0.40 (0.21)	0.00	1.00
Democratic father	0.81 (0.18)	0.17	1.00
Democratic mother	0.82 (0.17)	0.17	1.00

M = mean; SD = Standard deviation

The descriptive statistics for parenting styles show that the average scores for authoritarian father, authoritarian mother, permissive father, permissive mother, democratic father, and democratic mother were 0.36 – 0.82 respectively. These scores indicate the extent to which each parenting style was perceived by the adolescents. Overall, these descriptive statistics provide a preliminary understanding of the levels of smartphone addiction and perceived parenting styles among adolescents.

Table 3
Correlations Between Each Variable

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Smartphone addiction	1												
2. Daily life disturbance	.565**	1											
3. Positive anticipation	.760**	.236*	1										
4. Withdrawal	.829**	.444**	.504**	1									
5. Cyberspace relationship	.727**	0,180	.502**	.542**	1								
6. Overuse	.742**	.335**	.548**	.578**	.399**	1							
7. Tolerance	.490**	0,127	0,193	.303**	.261*	.451**	1						
8. Authoritarian father	-0,059	-0,052	-	0,065	0,027	0,078	-0,243*	-0,010	1				
9. Authoritarian mother	-0,038	-0,029	-	0,095	0,024	0,111	-0,213	-0,035	.779**	1			
10. Permissive father	.282*	-0,067	.327**	.244*	0,175	.343**	0,141	-.268*	-.225*	1			
11. Permissive mother	.298**	-0,064	.301**	.273*	0,207	.329**	0,208	-0,150	-0,128	.743**	1		
12. Democratic father	0,108	0,022	0,087	-	0,048	0,072	0,196	.262*	-0,148	-.306**	-0,067	-0,089	1
13. Democratic mother	0,133	0,055	0,102	0,023	0,031	0,211	.260*	-0,108	-.273*	-0,057	-0,058	.909**	1

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant a the 0.05 level (2-tailed).

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This correlation table shows the relationships between smartphone addiction and various other variables. daily life disturbance, positive anticipation, withdrawal, cyberspace relationship, overuse, and tolerance all show moderate to strong positive correlations with smartphone addiction, indicating that as these factors increase, so does smartphone addiction. The correlation table shows that smartphone addiction is strongly correlated with daily life disturbance ($r = 0.565$, $p < 0.01$), positive anticipation ($r = 0.760$, $p < 0.01$), withdrawal ($r = 0.829$, $p < 0.01$), cyberspace relationship ($r = 0.727$, $p < 0.01$), overuse ($r = 0.742$, $p < 0.01$), and tolerance ($r = 0.490$, $p < 0.01$). Among parenting styles, only permissive father ($r = 0.282$, $p < 0.05$) and permissive mother ($r = 0.298$, $p < 0.01$) show significant positive correlations with smartphone addiction. This suggests that a more permissive parenting style may be associated with higher levels of smartphone addiction in adolescents.

DISCUSSION

Based on the findings of this study, Statistically there is no difference between males and females based on gadget dependence. This contradicts with some other studies. higher rates of smartphone addiction among females, potentially due to factors such as greater social media usage and communication needs. However, other research has found no significant gender differences or even higher addiction rates among males (Arulmohi, Vinayagamoorthy, & R., 2017). The lack of a statistically significant difference in this study suggests that smartphone addiction may affect both genders relatively equally in this population. The majority of respondents experiencing smartphone addiction were in senior high school and junior high school. This trend is consistent with existing literature, which suggests that adolescents and teenagers are particularly vulnerable to smartphone addiction due to factors such as peer influence, identity formation, and increased autonomy (Setiadi, Tini, Sukamto, & Kalsum, 2019; Shoukat, 2019). The lower rates observed in primary school and college may be attributed to differences in smartphone access, usage patterns, and developmental stages.

In self-perception and usage patterns aspect, most respondents did not perceive themselves as addicted to gadgets, despite meeting the criteria for smartphone addiction. This discrepancy between self-perception and actual behavior highlights the potential lack of awareness or denial regarding problematic smartphone usage, which has been observed in previous studies (Chen, Yu, & Zhu, 2023). The data indicates that most respondents did not perceive a friend effect on their smartphone use, and also there is no significant differences in smartphone addiction were observed across different BMI categories suggesting that smartphone addiction may not be directly associated with physical health indicators like BMI (Grist, Cliffe, Denne, Croker, & Stallard, 2018). Recent research has shown a significant relationship between (BMI) and gadget dependency levels, that adolescents with higher BMI tend to use gadgets like smartphones more frequently in their daily lives. Excessive gadget use can influence adolescents' eating patterns and physical activity, potentially leading to increased BMI. These findings underscore the importance of considering gadget usage in adolescent health contexts, addressing both behavioral aspects and its impact on dietary habits and physical activities (Liu, Lan, He, Chen, & Jia, 2022; Yıldız, Kuruoğlu, Günvar, Çöme, & Mevsim, 2024).

Based on the provided results, the influence of parenting styles on smartphone addiction among adolescents can indeed be moderated by cultural and contextual factors. In some collectivistic cultures, authoritarian parenting practices may be more accepted and perceived as a form of parental involvement and concern, rather than as strict control (Gutiérrez et al., 2016; Lupton,

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2014). This could potentially mitigate the negative effects of authoritarian parenting on smartphone addiction. In individualistic cultures, permissive parenting may be more prevalent and accepted, leading to a stronger association between this parenting style and problematic smartphone use among adolescents (Nur, Setyaningrum, & Novandita, 2021). The availability and accessibility of smartphones and internet connectivity can also moderate the relationship between parenting styles and smartphone addiction. In regions with limited access to technology, the influence of parenting styles may be less pronounced (Setiawati et al., 2021).

This study evidence consistently indicates that a permissive parenting approach, by failing to provide adequate guidance and limits on smartphone use, may increase the risk of smartphone addiction among adolescents and young adults. permissive parents are highly nurturing and affectionate towards their children, but they avoid confrontation, fail to set clear rules and expectations, and do not enforce consequences for misbehavior. They tend to be lenient, indulgent, and allow their children a high degree of self-regulation without much parental control or discipline (Mahapatra & Batul, 2016).

CONCLUSION

The study concludes that there is a significant relationship between parenting styles, particularly permissive in overall smartphone addiction and democratic styles in aspect of tolerance. There are several limitations that should be considered of this study. The research was conducted exclusively in one district of Samarinda, which may restrict the generalizability of the findings to the entire city. Secondly, the sample size, although carefully selected, may not fully represent the diverse adolescent population in Samarinda. Lastly, while the statistical analysis employed in the study was appropriate for the research questions, future studies could benefit from incorporating more advanced analytical techniques to further enhance the depth and robustness of the findings.

Future studies in this area could benefit from examining individual psychological variables that may contribute to smartphone addiction among adolescents. This could include factors such as personality traits, coping strategies, and motivations for smartphone use. Future research should explore the influence of the social environment beyond just parental styles. Close relatives, such as siblings or extended family members, and peers can also play significant roles in shaping smartphone use behaviors. By taking a broader approach that considers both individual psychological factors and social influences, future studies can gain a more comprehensive understanding of smartphone addiction among adolescents.

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