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Gadget's Addiction Scale: An Adolescents Analytic Survey

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Abstract: *Background*–The use of gadgets among adolescents has some advantages. There has been a very significant increase in the use of cell phones, especially among teenagers. Gadget addiction will have an impact on social relationships, violent behavior, and mental health disorders. *Purpose*–This study aims to determine the characteristics of gadget and to determine the frequency distribution of gadget dependency levels. *Design/methodology/approach*–This study was using descriptive analytic. Samples in this study were adolescents and taken by multi-stage random sampling after being grouped by region. Sample that met the inclusion criteria was 86 respondents. Data collection in this study used an instrument in the form of a Smartphone Addiction Scale (SAS) questionnaire. *Findings*–The results showed that the highest level of gadget's addiction in adolescents was low (34.9%), moderate dependence (33.7%), while for high dependence it was 14% and very high dependency 4.7%. 51.7% of male adolescents showed moderate gadget dependence symptoms and 56.7% of female adolescents showed low levels of dependence. *Research limitations*–This study has limitations, namely that the implementation was planned face-to-face due to the Covid-19 pandemic conditions, the implementation of the research was carried out through the network. *Originality/value*–This study produces data that is not yet available in the city of Bukittinggi regarding the level of gadget dependence on adolescents in 2020 and can be the basis for further intervention in groups of children with a level of gadget dependence, both for schools, as well as on families and individuals.

Keywords: adolescent; addiction; gadget

1. Introduction

The use of gadgets among children has advantages, but the use of gadgets in children needs to be considered because of the impact it causes. Electronic gadgets and media have become an unintentional part of our lives in today's era. The growth of cell phone density has increased exponentially since the last 5 years. There has been a very significant increase in the use of mobile phones among school age children and adolescents. Gadget addiction will have an impact on children in the future. It needs efforts that can be made to avoid children from gadgets, including the application of family education.

Smartphones have been repositioned as a new information medium in other words, smartphones have expanded the list of information processing (Osman, 2012). Smartphones are leading devices that take and play the role of a universal mobile terminal. As a marketing strategy the term Smartphone is

introduced in the market, referring to a new class of mobile phones that provide integrated services from the communications, computing, and mobile sectors, including voice communications, messaging, personal information management (PIM) applications and wireless communication capabilities (Pei Zheng & Ni, 2006).

The use of gadget in Indonesia tends to show an increase every year, where in 2016 the Indonesian Internet Service Providers Association (APJII) reported that as many as 132.7 million or around 51.8% of Indonesia's population are internet service providers. The type of content accessed by internet users. This data shows a significant increase in 3 years (APJII, 2016), while in 2017 it increased to 143.26 million from a total of 262 million Indonesians (PJII, 2019).

Gadget addiction is an activity or behavior that is done repeatedly and will have a negative impact if the behavior cannot be controlled. Gadget dependence in adolescence, which is a small part of the population, but has a very large contribution. It is important to understand adolescence because adolescence is the future of every society. Adolescence is a developmental phase between childhood and adulthood, taking place between the ages of 12-24 years. WHO said that currently it is estimated that 27-31% of the world's population are aged between 10-24 years and 83% of those in developing countries (Dhamayanti, 2009).

The Ministry of Communication and Information of the Republic of Indonesia in 2018 shows that there are 64% of social network users in Indonesia who are youth groups. The use of smartphones is increasingly growing among these teenagers, causing various changes in attitudes and behavior among adolescents themselves (Asmaya, 2015). The various impacts caused by the lack of control over the use of gadgets in adolescents are the level of learning achievement and skills in social behavior (Blais, 2007).

Bukittinggi as a developing city and tourist city is also inseparable from the phenomenon of using gadget among adolescents. Based on the results of the initial survey that researchers have conducted in 5 State Junior High Schools in Bukittinggi City, namely SMP Negeri 2 Kota Bukittinggi, SMP Negeri 6 Kota Bukittinggi, SMP Negeri 3 and SMP Negeri 4 Kota Bukittinggi and SMP Negeri 5 Kota Bukittinggi. From the results of the initial survey it was found that the level of Gadget usage was almost evenly distributed among all junior high school students in the City of Bukittinggi, where almost all adolescents at the junior high school level in the City of Bukittinggi have used gadget, namely smartphones as gadget daily which are used almost every day, further the researchers also found almost All junior high school adolescents in Kota Bukittinggi have a smartphone given by their parents with the main purpose of using it to communicate and as a means of supporting learning, however the use of smartphones for teenagers is more likely for entertainment, such as social media, music and playing games which sometimes cause teenagers dependence on their smartphones.

A further phenomenon that the researchers found in the City of Bukittinggi is that of the 8 State Junior High Schools in the City of Bukittinggi, most of which are 6 State Junior High Schools in Guguk Panjang Subdistrict and only 2 State Junior High Schools outside Guguk Panjang District, namely SMP Negeri 5 Kota. Bukittinggi which is in Mandingin Koto Selayan District and SMP Negeri 7 Bukittinggi City which is located in Aur Birugo Tibo Baleh District, therefore most of the distribution of junior high school youth in Bukittinggi City is in Guguk Panjang District, Bukittinggi City. Of the 5 State Junior High Schools in Guguk Panjang Subdistrict, Bukittinggi City, SMP Negeri 2 Kota Bukittinggi is a State Junior High School with the highest number of students, namely 1021 students, therefore the researchers focused on research sites at SMP Negeri 2 Kota Bukittinggi as the target of the highest junior high school adolescents. in the City of Bukittinggi (City of Bukittinggi Education Office, 2020).

The interviews that the researchers conducted with 10 teenagers of SMP Negeri 2 Kota Bukittinggi found that they were already using gadget, especially smartphones. Of the 10 people, 5 consisted of men and they already had their own smartphones that were bought by their parents, while 5 young women 3 stated that they had their own smartphones and 2 others used those of their parents and siblings. The use of gadget is generally for social networking and online games, especially in the male group and 3 of them also stated that they used a smartphone for learning material needs. The duration of using gadget generally uses more than 2 hours a day, especially in the group of men who use gadget to play online games when alone or when hanging out with friends and overall respondents said they spent more free time playing gadget when compared to other activities.

2. Literature Review

2.1. Gadget Addiction

The type of gadget that is most often used today, and which creates social problems in society is the Smartphone. Smartphone addiction or addiction is the behavior of attachment or addiction to smartphones that may become social problems, such as withdrawal and difficulty in performing daily activities or as impulse control disorders towards a person (Kwon, et al., 2013). According to Chiu (2014), smartphone addiction is an addiction that has a lower risk of addiction to alcohol or drug addiction. Behavior can be said to be addictive behavior if a person cannot control their desires and causes a negative impact on the individual concerned (Yuwanto, 2013).

2.2. Impact of Gadget (Smartphone) Addiction

Excessive smartphone use can cause physical health problems such as blurred vision and pain in the wrist or neck (Kwon et al., 2013). In addition, excessive use of smartphones can lead to mental and behavioral disorders. It can also cause maladaptive behavior problems, interfere with school or work, reduce social interactions in real life, and can cause disruption of relationships or interactions in the future (Kuss & Griffiths, 2011). In a study conducted on smartphone users, it has been found that anxiety, anxiety, and depression are higher in the excessive smartphone user group than in the normal smartphone user group (Hwang, Yoo & Cho, 2012). Existing studies of the relationship between electronic media use and sleep have mostly focused on adolescents. It has been reported that internet usage problems are related to sleep problems, including subjective insomnia and poor sleep quality (Lam in Kadir, 2015).

Research conducted by Kadir et al (2015) examined the relationship between excessive smartphone use and sleep quality, depression, and anxiety in college students. This study involved 319 students. Of all participants, 78% (248 students) were smartphone users and 22% (71 students) were not smartphone users. Students in this study were also divided into three different groups. The first group, as many as 71 students, were included in the non-smartphone user group. The second group of 121 students falls into the low smartphone user group. The third group, as many as 127 students, belong to the high smartphone user group. Depression, anxiety, and daytime dysfunction which are components of the Pittsburgh Sleep Quality Index (PSQI) score are higher in the high smartphone user group than the low smartphone user group (Kadir D, et al, 2015).

Characteristics of normal development occur in adolescents in carrying out their developmental tasks to achieve self-identity, including evaluating themselves objectively and planning to actualize their abilities. Thus, in this phase, a teenager will (Tarwoto, Aryani, et al, 2010): Assess your sense of identity, increase interest in the opposite sex, incorporate secondary sex changes into body image, begin the formulation of occupational goals, begin to separate from family authority.

Yuwanto (2010, in Agusta, 2016) suggests that there are four factors that cause smartphone addiction, namely: internal factors, situational factors, social factors, external factors, and theoretical framework.

3. Methodology

This type of research is descriptive analytic which examines the level of gadget dependence which was carried out in June 2020 at SMP Negeri 2 Kota Bukittinggi. Taking the title and place of research is based on the high level of gadget usage among junior high school adolescents in Bukittinggi City and the distribution of junior high school adolescents in Bukittinggi City is more concentrated in Guguk Panjang District. The population in this study were all junior high school students, especially SMP Negeri 2 in Guguk Panjang District, Bukittinggi City, as many as 1021 people. Sampling in this study used a proportional sampling technique with a sample size that met the inclusion criteria as many as 86 people. Collecting data in this study using a gadget dependency scale questionnaire (SAS-BI). Data analysis included univariate analysis which was carried out computerized.

4. Results

4.1. Level of Gadget Addiction in Adolescents

The level of gadget dependence on adolescents at SMP Negeri 2 Kota Bukittinggi is categorized into very low, low, medium, high and very high which can be seen in the Table 1.

Table 1. Frequency Distribution of Gadget Dependency Levels on Adolescents at SMP Negeri 2 Bukittinggi in Bukittinggi City 2020.

Demographic Characteristic	F	%
Very Low	11	12.8
Low	30	34.9
Midle	29	33.7
High	12	14
Very High	4	4.7
Total	86	100.0

Table 1 shows that of the 86 respondents, the category for the most gadget dependency level was adolescents with a low level of dependence, namely 30 people (34.9%) adolescents with low gadget dependence, followed by a moderate level of dependence, namely 29 people (33.7%) of respondents.

The level of dependency assessment based on the gadget dependency assessment indicator according to SAS-BI can be seen in the following table:

4.2. Level of Gadget Dependency based on Gender

Table 2 shows that the frequency of the level of gadget dependence based on gender is a very high category of gadget dependence which looks balanced between male and female adolescents, namely 50% for each gender, the category of high gadget dependence is more dominated by the group of female adolescents. that is, 91.7% of high dependence is female adolescents and male adolescents only 8.3%, the moderate dependency category is more dominated by male adolescents, namely 51.7% while female adolescents are only 48.3%. The low dependency category was more dominated by female adolescents, namely 56.7% and male only 43.3%, while the very low dependency category was dominated by female respondents, namely 63.6% female adolescents with very low dependence and only 36.4% of male respondents.

Table 2. Frequency Distribution of Gadget Usage Based on Gender in SMP Negeri 2 in Bukittinggi City 2020.

Gender	Addiction Level									
	Very Low		Low		Middle		High		Very High	
	f	%	f	%	f	%	f	%	f	%
Male	4	36.4	13	43.3	5	51.7	1	8.3	2	50
Female	7	63.6	17	56.7	4	48.3	11	91.7	2	50
Total	11	100	20	100	100	12	100	4	100	

4.3. The Use of Gadgets Based on Frequently Used Features

Table 3 shows that of the 86 respondents, the features most often used by adolescents were social media and playing games, namely 48 people (55.8%) respectively, followed by 38 people (44, 2%) while the lowest usage was for access to music or video, which was 36 people (41.9%). The above conditions indicate that the features used by respondents tend to be multiple, namely the features used by more than one type of feature available on gadget.

Table 3. Frequency Distribution of Gadget Usage Based on the Frequently Used Features of Adolescents in SMP Negeri 2 In Bukittinggi City 2020.

Usage		F	%
Social Media			
a.	No	38	44.2
b.	Yes	48	55.8
	<i>Total</i>	<i>86</i>	<i>100.0</i>
Musics/Video			
a.	No	50	58.1
b.	Yes	36	41.9
	<i>Total</i>	<i>86</i>	<i>100.0</i>
Game			
a.	No	38	44.2
b.	Yes	48	55.8
	<i>Total</i>	<i>86</i>	<i>100.0</i>
Study			
a.	No	48	55.8
b.	Yes	38	44.2
	<i>Total</i>	<i>86</i>	<i>100.0</i>

5. Discussion

5.1. Level of Gadget Addiction in Adolescents

The results of the study in Table 1 shows that the category of the level of gadget dependence on adolescents in SMP Negeri 2 Kota Bukittinggi is mostly low dependence, namely 30 people (34.9%) then followed by a moderate level of dependence, namely 29 people (33.7 %) and only a small proportion of respondents with a high level of dependence and very high dependency, namely 12 people (14%) respondents with a high level of dependence and 4 people (4.7%) with a very high level of dependence.

The symptom of the level of dependence that most respondents showed was the indicator of feeling happy when using gadget, where as many as 40 respondents (46.5%) agreed that they were very happy when using gadget and 12 people (14%) respondents agreed, then followed on indicators of using gadget as socializing, where as many as 32 people (37.2%) of respondents agreed that they could get to know more people through the use of gadget and 22 people (25.6%) strongly agreed.

Excessive smartphone use can cause physical health problems such as blurred vision and pain in the wrist or neck (Kwon et al., 2013). In addition, excessive use of smartphones can lead to mental and behavioral disorders. It can also cause maladaptive behavior problems, interfere with school or work, reduce social interactions in real life, and can cause disruption of relationships or interactions in the future (Kuss & Griffiths, 2011).

Based on the symptoms shown by adolescents related to gadget dependence above, it can be stated that the scale of gadget dependence on adolescents in SMP Negeri 2 Kota Bukittinggi is mostly in the low dependency category, then followed by the moderate dependency category and only a small proportion of adolescents with high levels of dependence and dependability is very high. In line with research conducted by Alrasyed (2018) on the relationship between gadget addiction and emotional intelligence among adolescents (a study on junior high school students in Setiabudi District, South Jakarta). The results of this study stated that the majority of respondents experienced low gadget addiction (27.7%) and moderate addiction (49.9%). The study also explains that the low intensity of gadget use in adolescents is inseparable from school policies that provide restrictions and rules on the use of gadget in adolescents.

This research is also supported by research conducted by Muflih, et al. (2017) regarding the use of smartphones and social interactions among adolescents at SMA Negeri 1 Kalasan Sleman Yogyakarta. The results of this study also stated that the level of most gadget dependence on adolescents was in the low dependency category, namely 54.1%.

The assumption of the researcher is that the majority of adolescents in SMP Negeri 2 Kota Bukittinggi experience symptoms of the level of gadget dependence in the low and medium categories, namely adolescents experience feelings of great pleasure when using gadget, have moderate interest in

socializing on social media, and only a small proportion of adolescents show symptoms of high and very high dependence, such as spending a lot of time playing gadget so often skipping work or activities that have been planned and symptoms of dizziness or blurred vision after using excessive gadget.

This condition shows the success of efforts to control the use of gadget by parents and the school. Where at SMP Negeri 2 Kota Bukittinggi has a policy for students in the form of a prohibition on carrying and using gadgets, especially smartphones at school. Furthermore, this condition also shows the good efforts of parents in controlling the use of gadget in adolescents, so that only a small proportion of adolescents experience the negative impact of using gadget.

Controlling carried out by parents can be assessed from the amount of internet packages used by respondents, although the majority of respondents spend > 5gb of internet packages every month, but the majority of sources of costs in purchasing internet packages for adolescents are from parents, so parents can control the use of gadget in adolescents who are basically very dependent on internet networks. Increasing the control and supervision of the use of gadget in adolescents basically still requires increasing efforts from parents and schools, because in this study there were still a small number of adolescents who showed symptoms of high and very high dependence, this could be done by increasing cooperation between people. parents and schools to control the use of gadget in the school environment and after being at home.

5.2. *Level of Gadget Dependence on Adolescents Based on Gender*

The results showed that when assessed in terms of gender, most male adolescents in this study experienced a moderate level of dependence, namely 51.7%, while the majority of female adolescents experienced a low level of dependence, namely 56.7%, so the level of dependence was higher in the group of teenage boys. However, if assessed from each category of gadget dependence level, the level of dependence on gadget is very low and low is more dominated by the group of adolescent girls, namely 63.6% of the category of very low dependence is young women and 56.7% of the category of low dependence is also found in teenage girl. Meanwhile, for moderate dependence, it was dominated by male adolescents where 51.7% of all moderate dependency categories were male adolescents. The high level of dependence in this study was also more dominated by the female adolescent group, where 91.7% of the high dependency category were female adolescents, while for very high dependence it looked balanced, namely 50% of the very high dependency categories were male adolescents and 50% the other is teenage girls.

In line with previous research conducted by Mulyati & Frieda (2019) regarding smartphone addiction in terms of self-control and gender in Mardisiswa Senior High School Semarang students, the results of this study state that the level of smartphone addiction is significantly higher in the group of young girls. Where women tend to use access to information and social media through gadget, while men are more likely to use gadget as a means of playing online games. This study also states that there are many social conflicts between girls and their parents regarding the use of gadget and this shows the high frequency of using gadget among girls when compared to boys.

The assumption of the researchers is that when viewed from a gender perspective, the category of high gadget dependence is more dominated by young women. This is based on the habit of teenage girls to socialize and access social media via smartphones, such as access to Facebook, WhatsApp, and Instagram which provide features for teenagers for self-exploration and history among their peers. Meanwhile, male adolescents tend to use smartphone or gadget as a means to play online games and most teenagers will like 1 or 2 types of games in online games. Meanwhile, game play is a topic that is often a concern for parents so that the use of gadget to play games will receive tighter control from parents.

5.3. *Description of Gadget Usage Based on the Features Used*

The results showed that of the 86 respondents, the features most often used by adolescents were social media and playing games, namely 48 people (55.8%) respectively, followed by 38 people (44.2%) used for learning. %) while the lowest usage was for access to music or video, which was 36 people (41.9%). The above conditions indicate that the features used by respondents tend to be dual, namely features that are used by more than

one type of feature available on gadget, including use for social media, playing games, listening to music or watching videos and some also using it for learning purposes.

If judged from the category of use based on features, it is known that the use of social media is more dominated by women, namely 66.7% of social media use is teenage girls. This is in accordance with the characteristics of young women themselves who prefer to share their history and existence through social media. The use of social media in women's groups also shows women's interest in socializing through social media (Mulyati & Frieda, 2018). The assumption of the researcher is that the use of gadget in the youth group at SMPN 2 Kota Bukittinggi is more directed towards entertainment needs such as the use of social media and playing games as well as for accessing music and videos, only a small proportion of teenagers use gadget as a means of learning. Access to social media, music or videos is more dominated by groups of women who basically really like the history and experiences of social media such as self-existence through Facebook, Instagram and WhatsApp. Furthermore, young girls also have an interest in accessing the latest music and videos available on the internet, such as the latest Korean music and films which are currently very popular among teenagers, especially girls. Meanwhile, male adolescents showed more interest in playing online games through gadget.

6. Conclusions and Suggestions

Based on the results of research and discussion of the level of gadget dependence on adolescents, it can be concluded that the highest percentage level of gadget dependence in the adolescent group was adolescents with a low level of dependence, namely 34.9% and followed by adolescents with moderate levels of dependence, namely 33.7% and only a small proportion of adolescents showed symptoms of a high level of dependence, namely 14% and the level of dependence is very high at 4.7%.

More than half of male adolescents showed a moderate level of dependence, namely 51.7%, while women showed a low level of dependence, namely 56.7%. However, if judged from the category of gadget dependence, the high level of gadget dependence in this study was found to be 12 respondents and 91.7% of them were young girls.

The highest use of features in this study were adolescents who access social media and play games, namely 55.8% of respondents respectively and less than half of adolescents who use gadget as a means of learning. However, the use of gadget based on the features accessed is basically dual, namely teenagers use gadget to access social media, play games and also listen to music or videos.

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