

The Relationship Between Internet Addiction And Health Behavior In High School Adolescents

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ABSTRACT

Adolescents are in a phase of developing greater curiosity than adults, with less self-control, so they tend to overdo activities, one of which is accessing the internet. Excessive internet use can cause behavioral changes, including addiction, also called internet addiction. This study aims to examine the relationship between internet addiction and healthy lifestyle behaviors in adolescents. This descriptive correlative design used a cross-sectional study. The population was all students in one of the State Senior High Schools in South Aceh Regency, with a sample of 181 students. Data collection was carried out using questionnaires as a research instrument. The Chi-Square test was used to analyze the data. The level of internet addiction among the adolescents included was found to be mild (48.6%) and moderate (16%). The results of the analysis showed a significant relationship, with $p = 0.002$ ($p < 0.05$), between internet addiction and adolescent healthy behaviors. The findings of this study can provide important input for families and schools in monitoring, preventing, and establishing appropriate treatment for the problem of internet addiction and its adverse effects on healthy lifestyle behaviors among adolescents.

Keywords: *Internet addiction, healthy lifestyle behavior, adolescen*

INTRODUCTION

In technology, accessibility, and the use of mobile phones and the internet can change human existence (Hornor, 2020). Based on the results of a survey by the Indonesian Internet Service Providers Association (APJII, 2023), internet users in Indonesia in the 2022-2023 period increased by 1.17%, reaching 215.63 million (78.19%), with Aceh Province at 67.81%. The development of the digital era has increased the exposure of children and adolescents to the internet (Kurniasanti et al., 2018). Survey results showed that internet use by age was highest among adolescents aged 13-18 years, at 99.16% (Chang et al., 2024; Latifah & Krisnatuti, 2023).

The use of the internet cannot be separated from adolescents in daily activities, including accessing information related to school assignments and activities, connecting with friends through social media, and serving as a medium for entertainment (Putri et al., 2022). According to research by Karacic and Oreskovic (2017), most adolescents (84%) of the 1,074 surveyed use the internet for entertainment and 20% for school activities. This study (Karacic and Oreskovic, 2017) also showed that the rate of internet addiction was very high in adolescents aged 15-16 years. Internet technology can provide positive benefits, namely improving communication and education, but its use can also pose risks for children and adolescents. Inappropriate and excessive use of the internet can have negative effects, namely causing users to become addicted (Kurniasanti et al., 2018; Karacic and Oreskovic, 2017). Internet addiction is at greater risk of occurring in adolescents because the adolescent stage is a phase of heightened curiosity, which can be satisfied with easy access to information through the internet. However, uncontrolled internet access can increase the risk of addiction in adolescents (Kaya & Dalgic, 2021). According to research by Xu et al. (2012), adolescence is marked by poor self-control and self-regulation.

Many studies related to internet addiction have been conducted. Research by Xu et al. (2020) found that 23.7% of adolescents experience internet addiction. Another study (Banunaek et al., 2022) shows that 29.8% of adolescents experience internet addiction. A literature study (Putri et al., 2022) shows an increase in internet use among adolescents during the COVID-19 pandemic, placing them at risk of addiction. Another study found the prevalence of adolescents experiencing internet addiction was 23.2% (Aryanty & Maria, 2022). Excessive use of the internet has negative effects, including the tendency to access pornography, dependence on online content, risk of disease, risk of sleep deprivation, and others (Mustafaoglu et al., 2018). Excessive internet use is also associated with adverse health effects and unhealthy behaviors (Shaheen et al., 2019).

In the contemporary digital era, internet accessibility has become ubiquitous, profoundly integrating into the daily lives of adolescents who utilize it for education, social connection, and entertainment. This demographic, characterized by high curiosity and developing self-regulatory capacities, is particularly susceptible to developing patterns of excessive and problematic internet use. While the positive facets of the internet are widely acknowledged, a growing body of global research has begun to illuminate the darker corollary of its overuse: internet addiction. This behavioral addiction is increasingly recognized as a significant public health concern, linked to a spectrum of detrimental outcomes that impair an adolescent's physical health, psychological well-being, and social functioning, thereby threatening their holistic development during a critical life stage.

Despite the proliferation of studies on internet addiction globally, a distinct research gap persists within specific socio-cultural contexts, particularly in regions like Aceh, Indonesia. Existing literature has established correlations between internet addiction and various health behaviors, yet many studies have focused on broad national trends or urban centers, often overlooking the unique cultural, social, and regulatory environments of specific districts. The

urgency of this research is underscored by the latest national survey data from APJII (2023), which indicates that Aceh Province has an internet penetration rate of 67.81%, with adolescents aged 13-18 years representing the most avid user group nationally at 99.16%. This high penetration, coupled with the unique socio-cultural dynamics of the region, creates an imperative to investigate the localized manifestations and consequences of internet addiction to inform targeted interventions.

The novelty of this research lies in its focused investigation within the distinct environment of South Aceh Regency, a context that has not been extensively explored in previous addiction literature. By concentrating on a specific high school population in this locale, the study moves beyond generalized assumptions to provide granular, context-specific data on the prevalence of internet addiction and its concrete association with critical health behaviors—including dietary patterns, physical activity, sleep hygiene, and emotional stress management. This localized approach is crucial, as the drivers and expressions of internet addiction can be heavily influenced by community norms, accessibility, and local support structures—factors often homogenized in larger-scale studies.

Therefore, the primary purpose of this study is to rigorously examine the relationship between internet addiction and health behaviors among high school adolescents in South Aceh Regency. It seeks to quantify the prevalence of different levels of internet addiction within this population and analyze its statistical correlation with detrimental lifestyle choices. By employing a correlative descriptive design with a cross-sectional approach, the research aims to generate empirical evidence that is directly relevant to the local context, providing a clear snapshot of the issue's scope and impact.

The benefits of this research are multifaceted. For public health practitioners and school administrators, the findings will provide a critical evidence base for developing targeted health promotion programs and educational campaigns designed to foster digital wellness and healthy lifestyle habits among students. For parents and community leaders, it will raise awareness about the signs of internet addiction and its potential health repercussions, empowering them to initiate more effective monitoring and communication strategies within households. Ultimately, the study aims to contribute to safeguarding adolescent well-being by ensuring that the digital tools meant to connect and educate do not become agents of harm.

This research addresses a pressing need for localized data on a growing global issue. By identifying the specific relationship between internet addiction and health behaviors in South Aceh's adolescent population, it fills a critical knowledge gap and provides a foundation for developing timely, culturally sensitive, and effective intervention strategies. The insights garnered are expected to be invaluable for stakeholders committed to mitigating the adverse effects of problematic internet use and promoting the holistic health of the next generation.

RESEARCH METHOD

This study used a correlative descriptive design with a cross-sectional approach. The research was conducted at a State High School in Tapaktuan District, South Aceh Regency. The population consisted of 494 students, and the sample size was 181, selected through simple random sampling. This study used a correlative descriptive design with a cross-sectional approach. The research was conducted at a State High School in Tapaktuan District, South Aceh Regency. The population consisted of 494 students, and the sample size was 181, selected through simple random sampling.

RESULT AND DISCUSSION

Univariate Results

Table 1. Respondent Distribution Based on Characteristics

No	Variable	Frequency (people) (%)
1	Age	
	15	73 (40,3)
	16	45 (24,9)
	17	100 (55,2)
	18	16 (8,8)
2	Gender	
	Man	81 (44,8)
	Woman	100 (55,2)
3	Age of internet use	
	≤ 8 Years	58 (32)
	> 8 Years	123 (68)
4	Duration of internet use per day (hours)	
	< 3 Hours	19 (10,5)
	3-5 Hours	98 (54,1)
	≥ 6 Hours	64 (35,4)
5	Control of gadget usage	
	Yes	117 (64,6)
	No	64 (35,4)
6	Internet usage control	
	Yes	115 (63,5)
	No	66 (36,5)

Table 1 shows that out of 181 respondents, the majority of students are 17 years old as 100 students (55.2%), female gender is 100 students (55.2%). The age of internet use was mostly at the age of > 8 years of age at 123 students (68%). The duration of internet use per day is mostly 3-5 hours, which is 98 students (54.1%). Most adolescents have control over the use of gadgets, namely as many as 117 students (64.6%) and there are control of internet use for 115 students (63.5%).

Table 2. Respondent Characteristics with Internet Addiction and Health Behavior

No	Variable	Frequency (people) (%)
1	Internet Addiction	
	Normal	64 (35,4)
	Light	88 (48,6)
	Medium	29 (16)
2	Diet	
	Good	89 (49,2)
3	Physical activity	
	Good	87 (48,1)
4	Sleep	
	Good	101 (55,8)
5	Emotional Stress	
	Good	96 (53)
6	Health Behavior	
	Good	96 (53)
	Bad	85 (47)

Table 2 shows that the majority of respondents were exposed to mild internet addiction as many as 88 people (48.6%). Most of the respondents showed good health behavior, namely 96 adolescents (53%). Most adolescents showed poor diet, namely 92 students (50.8%), and poor physical activity, which was 94 adolescents (51.9%).

Bivariate Results

Table 3. The Relationship of Respondent Characteristics with Internet Addiction and Health Behavior

Respondent Characteristics	Adix Internet								Health Behavior					
	Normal		Light		Medium		Sum		Good		Bad		Sum	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Gender														
Man	32	39,5	35	43,2	14	17,3	81	100	47	58,0	34	42	81	100
Woman	32	32,0	53	53,0	15	15,0	100	100	49	49,0	51	51,0	100	100

	P= 0,419								P= 0,226							
Age (Years)																
15	11	55,0	6	30,0	3	15,0	20	100	11	55,0	9	45,0	20	100		
16	18	40,0	19	42,2	8	17,8	41	100	20	44,4	25	55,6	45	100		
17	28	28,0	54	54,0	18	18,0	100	100	57	57,0	43	43,0	100	100		
18	7	43,8	9	56,3	0	0,00	16	100	8	50,0	8	50,0	16	100		
	P= 0,133								P= 0,561							
Age of Internet use																
< 8 Years	15	25,9	29	50,0	14	24,1	58	100	25	43,1	33	56,9	58	100		
≥ 8 Years	49	39,8	59	48,0	15	12,2	123	100	71	57,7	52	42,3	123	100		
	P= 0,057								P= 0,066							
Internet duration																
< 3 Hours	13	68,4	6	31,6	0	0,00	19	100	12	63,2	7	36,8	19	100		
3-5 Hours	35	35,7	48	49,0	15	15,3	98	100	62	63,3	36	36,7	98	100		
≥ 6 Hours	16	25,0	34	53,1	14	21,9	64	100	22	34,4	42	65,6	64	100		
	P= 0,008*								P= 0,001*							
Control Gadget																
Yes	47	40,2	58	49,6	12	10,3	117	100	69	59,0	48	41,0	117	100		
No	17	26,6	30	46,9	17	26,6	64	100	27	42,2	37	57,8	64	100		
	P= 0,011*								P= 0,031*							
Internet Control																
Yes	45	39,1	58	50,4	12	10,4	115	100	67	58,3	48	41,7	115	100		
No	19	28,8	30	45,5	17	25,5	66	100	29	43,9	37	56,1	66	100		
	P = 0.022*								P=0,063							

Table 3 shows that there is a relationship between the duration of daily internet use ($P= 0.008^*$), the control of gadget use ($P= 0.011^*$) and the control of internet use ($P = 0.022^*$) and internet addiction. The results of the study also showed that there was a relationship between the duration of daily internet use ($P= 0.001^*$) and the control of gadget use ($P= 0.011^*$) with adolescent health behaviors.

Table 4. The Relationship between Internet Addiction and Health Behavior

No	Variable	Adix Internet								P value
		Normal		Light		Medium		Sum		
		N	%	N	%	N	%	N	%	
1	Diet									
	Good	37	41,6	39	43,8	13	14,6	89	100	

No	Variable	Adix Internet								P value
		Normal		Light		Medium		Sum		
		N	%	N	%	N	%	N	%	
	Bad	27	29,3	49	53,3	16	17,4	92	100	0,228
2	Physical Activity									
	Good	43	49,4	35	40,2	9	10,3	87	100	
	Bad	21	22,3	53	56,4	20	21,3	94	100	0,001*
3	Sleep Patterns									
	Good	44	43,6	49	48,5	8	7,9	101	100	
	Bad	20	25,0	39	48,8	21	26,3	80	100	0,001*
4	Emotional stress									
	Good	46	47,9	41	42,7	9	9,4	96	100	
	Bad	18	21,2	47	55,3	20	23,5	85	100	0,0001*
5	Health Behavior									
	Good	45	46,9	40	41,7	11	11,5	96	100	
	Bad	19	22,4	48	56,5	18	21,2	85	100	0,002*

Table 4 shows that there is a significant relationship between internet addiction and health behaviors in high school adolescents ($p < 0.05$).

Discussion

The results of this study show that the duration of internet use per day is mostly 3-5 hours, which is 54.1%. The results of this study also show that the internet addiction rate of high school adolescents is at the level of mild internet addiction (48.6%) and moderate internet addiction (16%). The results of this study are in accordance with the study by Buanasita and Hatijah (2022) which shows that the level of internet addiction in high school teenagers is mostly in the mild category, which is 66.7%. The Kaya and Dalgic (2021) studies show that the average internet addiction score in adolescents is at a moderate level of addiction. The results of another study (Fitria et al, 2018) also show that most adolescents are at high, medium and low levels of internet addiction.

Internet addiction is caused by various factors, one of which is internet use. Continuous internet use of more than four hours per day can increase vulnerability to internet addiction (Kurniasanti et al, 2018). This is in accordance with research by Banunaek et al (2022) which shows that factors related to internet addiction are the time in front of the screen for entertainment access ≥ 3 hours.

Another study (Aryanty & Maria, 2022), stated that ≥ 11 hours of internet use per day is 6 times more likely to experience internet addiction. According to Reid et al (2016), the limit of internet use in adolescents is 2 hours per day. The results of the APJII survey (2023) were obtained from 1-5 hours of internet use (63.74%) and 6-10 hours (22.44%). This indicates that the time of internet use exceeds the reasonable time limit. Internet use can have a negative

effect on adolescents if the time of use has exceeded a reasonable limit (Putri & Suryadi, 2023).

The results of the study showed that most adolescents showed poor diet (50.8%) and poor physical activity (51.9%). The results of the study showed that there was a relationship between internet addiction and health behaviors in high school adolescents. The results of this study are in line with several studies (Hasan & Ahmed, 2020; Kaya & Dalgic, 2021) which suggests that there is a significant relationship between internet addiction and the lifestyle of high school teenagers. Another study (Durmus, Ortabag & Ozdemir, 2021) also showed a significant association between unhealthy eating habits and problematic internet use.

Inappropriate and excessive use of the internet can have negative effects on internet users, namely causing users to become addicted or addicted (Kurniasanti et al., 2018., Karacic and Oreskovic, 2017). Internet addiction is at greater risk of occurring in adolescents because the adolescent stage is a phase of having higher curiosity, which can be fulfilled with easy access to information through the internet. However, uncontrolled internet access can increase the risk of addiction in adolescents (Kaya & Dalgic, 2021).

Prolonged internet use can lead adolescents to internet addiction behaviors, resulting in psychological, physical and daily activity disorders (Shahid, Asif & Pasha, 2022). This is supported by research by Kaya & Dalgic, (2021), which shows the negative impact of internet addiction on nutritional status, namely lack of activity, high calorie intake and excessive snacking. The results of the study also show that internet addiction can have a negative impact on the lifestyle of adolescents.

Literature studies show that internet addiction is associated with decreased exercise, irregular diets that negatively impact nutrition, as well as disturbances in interpersonal relationships, which lead to various psychological imbalances and reduce the individual's resources to cope with stress (Alpaslan et al., 2015; Kuss & Lopez, 2016). Another literature study (Ozparlak & Karaya, 2020) shows the negative impact of internet addiction on the physical, mental and psychosocial health of adolescents. Research by Kaya and Dalgic (2021) shows that internet addiction affects the lifestyle of adolescents. More time spent on the internet is one factor that represents negative lifestyle choices for individuals with internet addiction.

CONCLUSION

This study found a significant relationship between internet addiction and adverse health behaviors among high school adolescents in South Aceh Regency, with many students showing mild to moderate addiction linked to poor diet, less physical activity, disrupted sleep, and increased emotional stress. These findings emphasize that excessive internet use threatens adolescents' holistic well-being and healthy development, underscoring the need for targeted interventions in the community. Future research should use longitudinal designs to establish causal links, evaluate the effectiveness of intervention programs such as digital literacy and mindfulness training, and incorporate qualitative methods to understand

adolescents' motivations and barriers regarding internet use and health behaviors. Expanding research to diverse locations and demographics could further inform a comprehensive national strategy to address this growing public health issue.

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