A Comparative Analysis of Social Media Addiction Levels Between Male and Female Adolescents in Jayapura City

Analisis Komparatif Tingkat Kecanduan Media Sosial Antara Remaja Laki-laki dan Perempuan di Kota Jayapura

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ABSTRACT

Social media users among teenagers have increased in Jayapura City since the COVID-19 pandemic. Excessive use of social media can lead to addiction, which can result in decreased sleep quality, psychological problems, increased non-communicable diseases, and other health problems. This study aims to examine the level of social media addiction among teenagers based on age and gender. This study uses a cross-sectional study design. The sample consisted of 297 respondents aged 15-19 years at SMA Negeri 2 Jayapura. The sampling technique used accidental sampling. The instrument used was the Internet Addiction Test (IAT) questionnaire. Statistical tests used Pearson Correlation and Independent t-tests. There was a significant relationship between age and the level of social media addiction (p-value=0.030), there was a difference in the level of social media addiction between males and females (p-value=0.002), and there was no difference in the level of addiction based on class (p-value =0.687). Age and gender are related to the level of social media addiction among adolescents in Jayapura City. There is a need to improve digital literacy with a gender-sensitive approach to reduce the impact of depression, anxiety, and body image disorders. In addition, strengthening regulations on social media use and increasing supervision and screen time restrictions from parents and school rules are necessary.

Keywords: Addiction, Social Media, Adolescents, Gender

ABSTRAK

Pengguna media sosial dari kalangan remaja meningkat di Kota Jayapura sejak pandemi covid 19. Penggunaan media sosial yang berlebihan dapat menyebabkan kecanduan yang berdampak pada penurunan kualitas tidur, masalah psikologis, meningkatkan penyakit tidak menular, dan masalah kesehatan lainnya. Penelitian ini bertujuan untuk melihat gambaran tingkat kecanduan media sosial pada remaja berdasarkan usia, dan jenis kelamin. Penelitian ini menggunakan desain penelitian cross sectional study. Sampel sebanyak 297 responden berusia 15-19 tahun di SMA Negeri 2 Jayapura. Teknik sampling menggunakan accidental sampling. Instrumen menggunakan kuesioner Internet Adiction Test (IAT). Uji statistik menggunakan uji Pearson Correlation dan Independent ttest. Terdapat hubungan yang signifikan antara usia dengan tingkat kecanduan media sosial (p-value=0,030), terdapat perbedaan tingkat kecanduan media sosial pada laki-laki dan perempuan (p-value=0,002), dan tidak terdapat perbedaan tingkat kecanduan berdasarkan kelas (p-value =0,687). Usia dan jenis kelamin berhubungan dengan tingkat kecanduan media sosial pada remaja di Kota Jayapura. Perlunya peningkatan literasi digital dengan pendekatan sensitif gender untuk mengurangi dampak depresi, kecemasan, dan gangguan citra tubuh. Selain itu, penguatan regulasi penggunaan media sosial dan meningkatkan pengawasan dan pembatasan waktu layar dari orang tua dan aturan sekolah.

Kata Kunci: Kecanduan, Media Sosial, Remaja, Gender

INTRODUCTION

Social media is an important technology in the era of globalization that has developed from Web 2.0 applications as an open platform for communication and information sharing. As of April 2020, there were 3.81 billion active users, making it a fast and direct means of accessing public health information.[1] According to We Are Social data from 2022, the number of social media users in Indonesia increased by 21 million people, or about 12.6%, compared to the previous year. The most frequently used platforms are WhatsApp (88.7%), followed by Instagram (84.8%), Facebook (81.3%), TikTok (63.1%), and Telegram (62.8%).[2] In 2023, the number of social media users increased rapidly, reaching more than 4.8 billion people worldwide. About 90% of teenagers are active on at least one platform, with an average of three platforms used daily, and they spend nearly three hours per day interacting on social media.[3] According to the Indonesian Internet Service Providers Association (APJII), teenagers are the most active group of social media users, with a usage rate of 75.05%, and they are able to access and use social media easily.[4]

Social media has changed the way humans communicate and interact, especially among teenagers who now spend more time online than interacting directly with family, friends, or peers. These platforms provide various benefits, such as facilitating communication and connection, access to new information, learning opportunities, community participation, and emotional and health support. However, the increasing intensity of social media use among teenagers is also accompanied by a decline in sleep quality, including shorter sleep duration and difficulty sleeping.[3]

Excessive use of social media can lead to addiction, which is a psychological disorder in which a person spends a lot of time on social media due to high curiosity, lack of self-control, and a lack of productive activities in daily life.[5] A survey shows that the highest rate of internet addiction is in the Middle East (10.9%), followed by North America (8.0%) and Asia (7.1%). In Asia, the prevalence of internet addiction among adolescents varies, namely China (2.2–9.6%), Japan (3.1–6.2%), the Philippines (4.9–21.1%), and Hong Kong (3.0–16.4%). In Indonesia, the use of gadgets is most prevalent among adolescents. Data from the Central Statistics Agency (BPS) and APJII show that internet users increased from 71.19 million in 2013 to 83.7 million in 2014. Approximately 42.4% of Indonesian adolescents are addicted to the internet, and of all adolescent users, 70% access the internet for negative activities such as cyberporn and online gaming for more than three hours per day.[6] Social media use among adolescents in Jayapura City has increased since the COVID-19 pandemic, when all schools shifted to online learning. However, scientific information describing the patterns and frequency of social media use in this region is still limited and has not been widely published.

Based on the above description, the purpose of this study is to examine the level of social media addiction among adolescents aged 15-19 years in Jayapura City and the differences in addiction levels based on age, gender, and class.

MATERIALS AND METHODS

This study is a cross-sectional survey. The population of this study is all adolescents aged 15-19 years at SMA Negeri 2 Jayapura. The sample of this study is a portion of adolescents aged 15-19 years at SMA Negeri 2 Jayapura with a number calculated using the Lemeshow formula for survey samples, which is 297 respondents. The sampling technique used is accidental sampling.

The variable of social media addiction is excessive social media use that forms dependent behavior and neglects other things around them, as seen from the aspects of Salience, Mood Modification, Tolerance, Withdrawal, Conflict, and Relapse using 20 items from the Internet Addiction Test (IAT) Questionnaire by Young and Griffiths (1998; 2008) with a Likert scale of 0 = Never, 1 = Rarely, 2 = Sometimes, 3 = Often, 4 = Very Often, and 5 = Always. The measurement results were categorized as follows: Mild if the score was 0-33.32, Moderate if the score was 33.33-66.66, and Severe if the score was 66.67-100. The IAT questionnaire has undergone validity testing with all items having a calculated r value > r table, and reliability testing with a Cronbach's alpha value of 0.763.

Data analysis uses Pearson's correlation test for the age variable and the independent t-test for the gender and class variables, after first fulfilling the normality test assumptions.

RESULTS

The results of the analysis of the characteristics of 297 respondents are presented in Table 1 below. Based on Table 1, the average age of respondents was 15 years old, with the youngest being 14 years old and the oldest being 19 years old. Based on gender, most respondents were female, numbering 152 people (51.2%), while males numbered 148 people (48.8%). The most common occupation of the respondents' parents was civil servant/military/police, with 117 people (39.1%), and the most respondents came from grade X (ten), with 212 people (71.4%).

Table 1. Respondent Characteristics

Features	n	%
Age (years)		
14	10	3,3
15	147	49,4
16	112	37,7
17	24	8,1
18	3	1,0
19	1	0,3
Gender		
Male	145	48,8
Women	152	51,2
Classes		
X	212	71,4
XI	85	28,6
Parenting Work		
Civil Servant/Military/Police	116	39,1
Private	62	20,8
Entrepreneur/Trader	36	12,1
Farmer/Nelayam	21	7,0
Others	62	20,9
Total	**297**	**100**

Source: Primary data, 2024

The results of the social media addiction indicator analysis can be seen in Table 2. In terms of salience, which is assessed by the behavior of imagining new things on social media and planning the time to open social media, the average score was 2.45 out of a maximum score of 5. Meanwhile, in terms of mood modification, which is the behavior of distracting oneself from problems with social media and feeling happy, the score was 2.31 out of a maximum score of 5.

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In terms of tolerance, which is the behavior of spending more time on social media, the score was 2.53 out of a maximum score of 5. In terms of withdrawal, which is the behavior of feeling empty without social media, feeling annoyed when interrupted while using social media, and feeling anxious when not accessing social media, the average score was 2.00 out of a maximum score of 5.

Then, in the conflict aspect, 50% of teenagers are often reprimanded by their parents for their

social media activities, but most teenagers are in the category of never or rarely experiencing a decline in grades due to using social media, with an average score of 2.04 out of a maximum score of 5.

In terms of relapse, most respondents fall into the "sometimes" category for reducing their social media access time but failing to do so. The average score is 1.35 out of a maximum score of 5.

Table 2. Distribution of Respondents' Social Media Addiction Indicators

Indicator	N	Mean	SD	Min	Max	Normality Test
Addiction	297	43,2	17,3	2	92	0,118
Salience	297	2,45	1,32	0	5	0,001
Mood Modification	297	2,31	1,19	0	5	0,031
Tolerance	297	2,53	0,98	0	5	0,510
Withdrawal	297	2,00	1,06	0	5	0,006
Conflict	297	2,04	1,01	0	5	0,058
Relapse	297	1,35	1,18	0	5	0,000
Age	297	15	0,76	14	19	0,000

Sources: Primary Data, 2024

Table 3. Distribution of Activity on Social Media

Social Media Activity	Never	Once every 1-2 weeks	1-2 times a day	Many times
Check social media apps	14(4,7)	26(8,6)	65(21,6)	196(65,1)
Send social media messages	16(5,3)	26(8,6)	77(25,6)	182(60,5)
Browsing or viewing gamba/video	14(4,7)	36(12,0)	77(25,6)	174(57,8)
Listen to or download music	12(4,0)	45(15,0)	97(32,2)	147(48,8)
Likes or comments on social media posts	43(14,3)	61(20,3)	90(29,9)	107(35,5)
Send messages online	37(12,3)	42(14,0)	59(19,6)	163(54,2)
Streaming TV or movies	35(11,6)	79(26,2)	81(26,9)	109(35,2)
Play online games on your own	63(20,9)	67(22,3)	69(22,9)	102(33,9)
Play online games with family/friends	94(31,2)	70(23,3)	61(20,3)	76(25,2)
Read books, articles, news on social media	36(12,0)	91(30,2)	93(30,9)	81(26,9)
Share a post to a social media status	43(14,3)	106(35,2)	70(23,3)	82(27,2)
Post photos, statuses, stories to social media	43(14,3)	126(41,9)	73(24,3)	59(19,60)
Online shopping	130(43,2)	133(44,2)	22(7,3)	16(5,3)
Send a message using video	109(36,2)	77(25,6)	66(21,9)	49(16,3)

Sources: Primary Data, 2024

Activities frequently performed on social media include checking social media apps (65.1%), sending social media messages (60.5%), browsing or viewing images/videos (57.8%), sending online

messages (54.2%), listening to or downloading music (48.85%), liking or commenting on social media posts (35.5%), streaming TV or movies (35.2%), sharing statuses on social media (27.2%),

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reading news articles on social media (26.9%), and playing online games (24.2%). (Table 3)

The level of social media addiction shows that 33 teenagers (10.96%) are severely addicted to social media. The highest number of teenagers addicted to social media is 169 (56.15%). Meanwhile, 99 teenagers (32.89%) are mildly addicted.

Table 5. Distribution of Social Media Addiction Rates

Category	n	%
Weight	33	11,1
Medium	169	56,9
Lightweight	95	32,0
Total	**297**	**100**

Source: Primary data, 2024

Table 6. Social Media Addiction Rate Based on Parental Work

Category	Weight	Medium	Lightweight
Civil Servant/Military /Police	16(13,7)	65(56,0)	35(30,2)
Private	4(6,5)	40(64,5)	18(29,0)
Entrepreneurship	2(9,5)	7(33,3)	12(57,1)
Farmer/Fisherman	2(5,6)	21(58,3)	13(36,1)
Others	9(14,5)	36(58,1)	17(27,4)
Total	**33(11,1)**	**169(56,9)**	**95(32,0)**

Source: Primary data, 2024

Based on the parents' occupations, the highest number of severe addiction cases were found among those whose parents worked as civil servants/ military/ police officers, totaling 16 people (13.7%), followed by other occupations with 9 people (14.5%). However, among students whose parents work as civil servants/ military/ police, the highest level of social media addiction was in the moderate category (56%), while among students whose parents work in the private sector, the highest level was also in the moderate category (64.5%). while among parents who were

entrepreneurs, the highest number was also in the moderate category (33.3%), and among parents who were fishermen/farmers, the highest number was also in the moderate category (58.3%).

Statistical analysis in Table 7 found a significant relationship between age and the level of social media addiction among adolescents (p value = 0.030). There was a difference in the level of social media addiction between males and females (p value 0.002), with a higher average addiction score among females (46.1±17.7). However, based on the class of respondents, there was no difference in the level of addiction between classes X and XI (p-value 0.687).

Table 7. Statistical Analysis

Category	Mean±SD	p-value
Age	15±0,76	0,030*
Gender		0,002**
Male	40,1±16,5	
Women	46,1±17,7	
Classes		0,687**
X	43,4±18,1	
XI	42,5±15,3	
Total	**301**	**100**

*Pearson Test ** Independent T Test
Source: Primary data, 2024

DISCUSSION

Social media is a powerful digital resource that opens up many opportunities for community growth and has spread widely throughout the world. Platforms such as Facebook, Instagram, TikTok, and others allow individuals to share content, ideas, and promote themselves or their products. However, despite facilitating communication, social media also has a negative side because it is designed to make its users addicted.[7] Many teenagers and young adults use social media to an

alarming extent, with around 84% of adults under the age of 30 using social media platforms.[8]

The results of this study found that 11.1% of respondents experienced severe social media addiction, and 56.9% of respondents experienced moderate social media addiction. The prevalence of social media addiction among teenagers, according to several studies, ranges from 5% to 20%.[9,10] Similarly, in Indonesia, 48.6% of adolescents were found to be addicted to social media, and 51.4% were at a low level.[11]

According to Griffiths (2005), social media addiction is influenced by several characteristics such as salience, mood modification, tolerance, withdrawal, conflict, and relapse. Addiction is a serious psychological condition that disrupts a person's life. According to experts, addiction is characterized by: Compulsive use, repeated use due to a strong urge involving reinforcement, desire, and habit; Loss of control, making it difficult to stop using social media; Continued use despite adverse consequences; Tolerance, an increasing need for more time spent using social media; and Withdrawal, the emergence of discomfort when not accessing social media.[5] The results of this study found that the aspects of salience, mood modification, tolerance, withdrawal, conflict, and relapse had an average score of 1.35–2.45 out of a maximum score of 5. This indicates that the characteristics of addiction are at a moderate level, describing that teenagers at SMAN 2 Jayapura are not at a high level of social media addiction, but social media use has a role in the daily lives of teenagers, such as thoughts dominated by internet use, a strong desire to check social media, increased

use over time, conflicts between themselves and those around them regarding internet use, and difficulty reducing the duration of use. However, the moderate level of use has not yet reached a stage that significantly disrupts the academic activities or social relationships of adolescents.

The use of social media has been widely studied for its links to health issues. Research on social media and adolescent mental health continues to evolve, examining its links to depression, body image, eating disorders, and behavioral problems. Similar studies have also found a significant correlation between social media use and adolescent mental health and behavioral problems. Increased social media use has been linked to decreased self-esteem and body satisfaction, increased risk of cyberbullying, increased exposure to pornographic material, and risky sexual behavior.[12] Both males and females who use the internet excessively may experience insomnia and suicidal ideation as a result of IAD.[13]

In addition, other studies have also found a significant correlation between social media use and involvement in risky behavior in general, illegal substance use, and risky sexual behavior. Contemporary social media use (other than Facebook/Myspace) is associated with illegal substance use. Furthermore, social media use among adolescents is associated with risky sexual behavior.[14] Excessive social media use also leads to an increase in sedentary behavior. This increase in sedentary behavior is associated with an increase in various chronic diseases.[15] However, some adolescents consider social media to be harmful to mental well-being because it can cause mood

disorders and anxiety, be a means of cyberbullying, and lead to addiction.[16]

This study found a significant relationship between age and the level of social media addiction among adolescents (p value = 0.030). Social media is now popular among early adolescents, even though the minimum age for users is generally 13 years old according to the 1998 COPPA regulations. Due to weak age verification, many minors still have accounts. Studies in Europe show that 42% of children aged 9–12 have a Facebook account, and this trend is likely to apply to other platforms as well.[17,18] Most adolescents aged 11–15 (69.5%) have social media accounts, mainly on TikTok (67.1%), YouTube (64.7%), and Instagram (66.0%). Even 63.8% of adolescents under the age of 13 are also active on social media, with an average of 3 accounts, with TikTok being the most popular platform (68.2% of users; 39% use it most often). About 6.3% of adolescents have secret accounts that are hidden from their parents.[18]

This study also found differences in the level of social media addiction between males and females, with females having a higher average addiction score. Several studies have found that young people and females are more prone to social media addiction and social interaction.[19,13] Females have higher usage of TikTok, Snapchat, Instagram, and Pinterest.[18] The results of this study found that social media activities that are done repeatedly include checking social media applications, sending social media messages, browsing or viewing images/videos, sending online messages, listening to or downloading music, liking or commenting on social media posts, streaming TV or movies, sharing statuses on social media, and reading news articles on social media.

Meanwhile, in another study, men are at greater risk of developing Internet Addiction Disorder (IAD) because they are more often involved in activities such as pornography, cyber sex, and online games. In addition, men have higher usage of YouTube and Reddit.[13,18] The results of this study also found that only 24.2% of respondents play online games.

Social media addiction arises from the interaction between psychological, social, and technological factors. Psychologically, users seek validation and escape from stress. Socially, they are influenced by pressure and comparison with friends. Technologically, platform designs are deliberately crafted to maintain user attention.[1]

In addition, personality (e.g., neuroticism), lack of prosocial behavior, impulsivity, sleep problems, and ADHD symptoms also influence high internet use. However, high internet use in adolescent males is associated with traumatic experiences, hostility, and low self-control, while in adolescent females it is associated with emotional difficulties, negative mood, and smartphone addiction.[13]

Lack of self-control is also another cause of addiction, both to psychoactive substances and behavioral addictions, which are forms of dependence that arise from a strong urge to perform a behavior to obtain satisfaction.[20]

The limitations of this study are the use of self-report instruments and accidental sampling techniques, which have the potential for response bias and selection bias.

CONCLUSIONS AND SUGGESTIONS

Based on the results of this study, it was found that the highest level of social media addiction was in the moderate category. Age and gender were found to be related to the level of social media addiction among adolescents in Jayapura City, while class differences were not significantly related. Parents need to supervise and restrict social media use from an early age, schools need to improve gender-sensitive digital literacy among adolescents and enforce rules on cell phone use, while local governments need to increase the provision of alternative spaces and activities for adolescents to encourage physical activity and improve emotional health.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest regarding the publication of this article.

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