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**SOCIAL MEDIA ADDICTION FOR TEENAGERS IN ALGORITHM AND PLATFORM DESIGN: THE LIKE, COMMENT AND SHARE FEATURE**

Dona Eka Lovianie<sup>1</sup>, Bambang Subiyakto<sup>2</sup>, Rochgiyanti<sup>3</sup>

<sup>1</sup>Lambung Mangkurat University, Indonesia

<sup>2</sup>Lambung Mangkurat University, Indonesia

<sup>3</sup>Lambung Mangkurat University, Indonesia

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**ABSTRACT**

Social media has become an integral part of teenagers' lives, serving as a medium for lifestyle changes and shifts in perspectives, both positively and negatively. This study aims to explore changes in teenagers' communication patterns in the digital era using a qualitative approach and literature study as the data collection method. The findings show that social media significantly influences teenagers' communication patterns in the digital age. The impact can be both positive and negative. Therefore, teenagers need to use social media wisely and responsibly. They need to be aware of its influence on their communication patterns and take steps to minimize its negative effects.

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<sup>1</sup> Corresponding author.

E-mail addresses: [dnloviani@gmail.com](mailto:dnloviani@gmail.com)

## INTRODUCTION

Era of rapidly developing globalization, countries around the world, including Indonesia have entered the era of modern society, the manifestation of this modernization can be seen in the progress in the field of information and communication technology. Undoubtedly, sophisticated technology throughout the world has been created to make it easier for users to access information through various network media according to their needs, so that in line with this, the increasingly rapid progress of communication technology, makes communication methods also experience rapid development(The Great, 2024). Social media has become a communication medium that is of interest to various groups, as Datareportal as a provider of data and reports related to the use of the internet, social media, and digital technology globally, states that almost half of the population of Indonesia uses social media.

Indonesia had 167.0 million social media users in May 2024, equivalent to 49.9 percent of the total population with Data showing that Indonesia's population increased by 2.3 million (+0.8 percent) between early 2023 and early 2024. The data also found that social media users in Indonesia are mostly aged 18-34 years, where this age range is part of Generation Z. From the results of the 2024 Indonesian internet penetration survey released by APJII, Indonesia's internet penetration rate reached 79.5%. Compared to the previous period, there was an increase of 1.4%(Pratama & Nugroho, 2023). Supported by data that Gen Z is the largest population with a productive age, one of its main characteristics is that it has increased use and familiarity with digital communication, media, and technology (Aisafitri & Yusriyah, 2021).

Social media is increasingly popular among teenagers, growing so rapidly that people can use it anytime and anywhere, making users more comfortable in establishing social relationships online, marked by an increase in the amount of time spent accessing social media.(Rizqi et al., 2023). Individuals who are in early adulthood are more likely to experience repetitive behavior when using the internet which can lead to an increase in the intensity of internet usage time so that it is possible for social media addiction behavior to emerge. This is due to the transition during adolescence, which is a period of significant psychological, biological, and social change for young people because they find new skills.(Silvana, 2024).

The division of age groups or age categories issued by the Ministry of Health of the Republic of Indonesia (2009) on its official website [depkes.go.id](http://depkes.go.id) are toddlers (0 - 5 years), children (6 - 11 years), early adolescence (12 - 16 years), late adolescence (17 - 25 years), early adulthood (26 - 35 years), late adulthood (36 - 45 years), early old age (46 - 55 years), late old age (56 - 65 years), old age (65 - over). Another opinion according to Hurlock (1980) to find out the boundaries of early and late adolescence between the ages of 17 years, the age of

adolescents is generally in high school. Adolescents should be able to make adjustments, in order to achieve goals in socializing patterns as adults. The most difficult thing is adjusting by increasing peer influence, social behavior, social grouping (friendship), social rejection, new values in support or leader selection(Ulfa & Rachman, 2022; Wardany et al., 2021).

Along with the increasing development of the era, there has also been an increase in daily needs, so that both men and women are no longer limited to working and having a career to stabilize family finances. Moreover, both directly and indirectly, a stable economy affects the problem of Education which also contributes to Development. It should be noted that the internet and social media have various benefits, including the ability of individuals to be more creative, the ability to send and receive messages from various sources from anywhere and at any time, can reduce conflict, increase cooperation, and expand friendship networks(Oktavia et al., 2023). The social media that is often used by respondents is Instagram which has a very high level of 75%. In the high category there is WhatsApp social media which amounts to 10%. And in the sufficient category which amounts to 5% each, namely on social media Twitter, Tiktok, and Quora. Meanwhile, in terms of age, social media users are dominated by the age of 18-34 years (54.1%), with female gender (51.3%) while male (48.7%). The frequency of use of Indonesian people spends an average of 3 hours 14 minutes per day and 81% access it every day. The activities that are often carried out also vary from sharing photos/videos (81%), communication (79%), news/information (73%), entertainment (68%), online shopping (61%) (Lisnawati et al., 2021).

However, concerns have been raised about the amount of time young people spend on social media being linked to stress, depression and poor sleep, which is because social media also serves as a platform for users to share comments and express views, and this is seen as a risk for Millennials. The implication is that this type of activity is having an impact on their emotional wellbeing and young people feel that social media has a negative impact on their mood.(Hasbullah & Pramonojati, 2022). Social media tends to reduce social relations in society, causing phubbing behavior to emerge. The term "phubbing" refers to the use of mobile phones and taking calls, where a person ignores or ignores others in their environment because of their focus on their mobile phone rather than interacting or talking which causes a decrease in the quality of relationships and a decrease in communication between individuals and groups.(Anggraini et al., 2023).

In addition, social media can also cause anxiety when they check their social media and see other people's activities, so they can't stop seeing what other people are doing. This can

lead to addiction, which tends to make its users need to know what is happening constantly so as not to feel left behind. Policy makers also continue to express concerns regarding the level of risk that teenagers experience on social media, with specific risks including, exposure to what is considered inappropriate content for their age group, such as online pornography, peer abuse in the form of sexually provocative or antagonistic comments, invasion of privacy, and even waste and undue influence.(Asari et al., 2023).

This can affect the lifestyle of Millennials who are up-to-date on news, where the current millennial generation not only spends time looking for the news they need, but also uses it to follow the lives and activities of other people because they follow trends.(Mukhlis, 2021). Teenagers who are addicted to social media are more likely to experience a range of negative issues compared to those who are not, including mental health, social support, interaction anxiety, sleep disturbance, life satisfaction, loneliness, self-reported depression, and loss of self-esteem.(Priowidodo, 2022). In a very dynamic digital era, social media has become an integral part of everyday life, especially for the younger generation. Teenagers, with their more active and more sensitive characteristics to information, have become one of the most active groups in using social media. In this article, we will discuss how algorithms and designs of social media platforms affect adolescent behavior in using social media and how this can impact social media addiction in adolescents.

## **RESEARCH METHODS**

This study uses a literature review method or library study to collect and analyze data. This method involves searching, evaluating, and synthesizing relevant literature from various relevant academic sources in writing articles, such as scientific journals, books, and conference articles. This process is carried out to identify key findings, research trends, and gaps in existing literature against previous research. This approach allows researchers to comprehensively review previously published theories and empirical evidence, so that it can provide a strong foundation for further research development.(Zed, 2008).

## **RESEARCH RESULTS AND DISCUSSION**

The impact of social media on adolescent interaction patterns is very complex, such as allowing adolescents to connect with friends, expand social circles, and build digital identities. However, on the other hand, excessive use of social media can lead to social isolation, decreased direct communication skills, and social pressure to display a perfect life. The presence of smartphones in this era encourages many people to stay active on social media, especially with various choices such as Instagram, WhatsApp, Line, Facebook, Twitter,

Snapchat, and YouTube making people compete to exist. The development of social media in Indonesia has reached a total of 167 million active users in Indonesia, this means that the majority of internet users socialize through social media. Released by we are social that the most popular use of social media includes WhatsApp, Instagram, TikTok, Facebook and X (Twitter)(Panggabean, 2024).

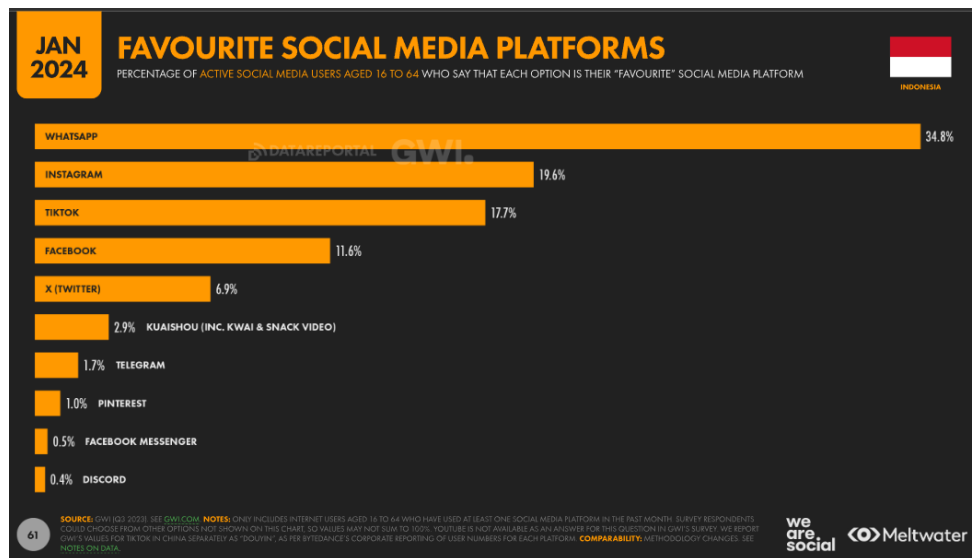


Figure 1. of Social Media Usage in Indonesia

The graph shows that the type of platform that is in demand is social media that can be used to express oneself, where individuals can upload videos or photos and have comment, share and like features.

### 1. Factors of Social Media Addiction

Indonesia was recorded as the country with the longest smartphone usage duration in the world in 2022. On average, Indonesians spend around 5.7 hours per day on their smartphones. In addition, they also allocate most of that time to watch entertainment content through short video applications, with a total time reaching 7 billion hours during 2022.

#### a. Algorithm

Social media has an impact on self-image, namely by building self-image and being accepted on the social media used, the encouragement comes from the content of other users who are considered inspiring so that they have the encouragement to show the best version of themselves. Social media algorithms can be beneficial for teenagers because they can help in finding content that is relevant to their interests and interests, so they can find useful and interesting information more easily. In addition, social media algorithms can also help teenagers interact with others by giving likes and comments, which allows them to participate in activities in the community.

Social media addiction in adolescents is a complex phenomenon influenced by various interrelated factors. Psychologically, adolescents often experience Fear of Missing Out (FOMO) and the need for social validation that drives them to stay connected. The dopamine-based reward system in the brain also plays a significant role, providing a sense of pleasure every time they receive a notification or like, thus encouraging repeated use. Technological factors play a crucial role in creating an environment that encourages addiction. Content personalization algorithms present information that matches the user's interests, increasing engagement. Features such as push notifications and pull-to-refresh trigger compulsive behavior, while interface designs such as infinite scrolling keep users consuming content endlessly. Gamification in the form of likes, shares, and streaks further reinforce addictive behavior.

This is common in people of all ages, because it has a pleasant and entertaining impression. Social media has an algorithm that functions to prioritize the most relevant, interesting, and useful content for each user. In this case, the social media algorithm influences the behavior of teenagers in using social media in an indirect way. Currently, the existence of social media is very popular because it can be used as a fast and cheap way to spread information and is useful for many people around the world to interact with each other. This triggers a continued desire to linger on social media because it is considered fun, no different from addiction (Priyowidodo, 2022).

This algorithm can affect what is displayed on the user's page, so that users tend to see and follow content that is similar to what they have seen before. This can affect the behavior of teenagers to become more focused on similar content and less open to information. Algorithms according to Finn (2017) are mathematical devices for manipulating data or calculating problem solving that can indicate preferences or vice versa. The Algorithm phenomenon tends to encourage individuals as social media users to gather in the same information bubble (Pratama & Nugroho, 2023).

In this way, individual attention will be increasingly seized by the fear of being left behind by information from others. The virtual world encourages an ideal self-concept for its users, making teenagers compete to form an image that suits their desires. (Rizqi et al., 2023). This phenomenon makes teenagers feel more appreciated when they receive compliments and likes from others on social media, which makes them more courageous to show themselves and impress others with the image they create. Social media algorithms are designed to present relevant and interesting content based on user data, such as search history, likes, shares, and

other interactions. Which is used to analyze this data so that it will be relevant and can display content that suits individual preferences and interests.

This personalization increases time spent on the platform because it makes each user feel like the content they are viewing is the most interesting and important to them. For teens, who are often seeking validation and identity, this personalization can create a strong dependency as they continually find content that meets their emotional and social needs.(Silvana, 2024). So every time the user scrolls, new content appears as if it never ends. This creates the illusion that there is always something new and interesting to see, making it difficult for users to stop. These features are very effective in keeping the attention of users, especially teenagers, who may not realize how long they have spent on the platform.

However, this algorithm can help teenagers find content that is relevant to their interests and concerns, so that they can more easily find useful and interesting information. In addition, social media algorithms can also help teenagers improve their ability to interact with others, such as with the comment and like features that allow them to participate in discussions and share opinions. Furthermore, it shows that social media can also be a useful tool for sharing positive information and building supportive networks.(Hasbullah & Pramonojati, 2022).

This shows that the existence of algorithms can lead individuals to a profitable digital era, especially the benefits of social media which can be used as additional income that is secondary. Knowledge of this platform comes from information on social media which is then studied and tried to be applied to their lives. In reality, these uploads attract users and get a place so that they can raise current issues so that users become updated(Anggraini et al., 2023). Another thing that is no less of a concern is the negative impact of social media algorithms in the form of addiction that can lead to unbalanced behavior such as spending too much time on social media, ignoring other activities, and experiencing stress due to the pressure to always appear active on social media. In addition, social media addiction can also have an impact on the quality of adolescent interactions, such as having difficulty interacting with others directly and having difficulty managing emotions, then it has an impact on health.

As for bad behavior that is spread on social media, it can be the spread of false information, abuse and fraud and the spread of privacy, this happens because users are not yet able to identify and distinguish hoax information, easily influenced by widespread hate speech. In addition, it can make a person's belief in something more often based on personal preferences than the actual facts, indicating a problem that has not been able to be resolved by social media users.(Asari et al., 2023).

The main thing that has a direct impact on the algorithm is sleep quality, lifestyles related to the use of social media, such as staying up late to doing online activities, can have a negative impact on sleep quality. Sleep quality is a measure of how easy it is for someone to sleep, can be described through the length of sleep time, complaints felt. Meanwhile, good sleep quality will produce freshness and fitness when you wake up. Someone has several unmet needs that will fulfill their physiological needs first compared to the needs of others. One of these physiological needs is rest and sleep. The thing that affects sleep quality according to research conducted by the Case Western Reserve School of Medicine (2008) is the internet, because at this time the use of electronic media and internet access and social networks/social media is no longer a new thing, teenagers spend a lot of time on social media so that it reduces sleep time, which should be 8 hours of sleep to 4 or 5 hours per day(Asari et al., 2023).

#### b. Platform Design (awards and recognition)

Social media platform design uses an effective reward system to retain user attention. Features such as likes, comments, and shares provide instant rewards to users every time they interact with content. The features available in it make social media not only focus on publishing photos, images and writings but can also publish videos in accurate time (real time)(Hasbullah & Pramonojati, 2022; Oktavia et al., 2023). This phenomenon makes teenagers feel more appreciated with the reciprocity of praise and likes from others on social media, making teenagers more courageous in exposing themselves and impressing others with the image they build.

This system creates a positive feedback loop, where individuals will be encouraged to post and seek interaction to gain more rewards, which ultimately strengthens their dependence on social media platforms. This is supported by various types of platforms that provide diverse and complete features, such as the current trend of video stories on social media has begun to change to Live video streaming, which is already owned by several social media platforms such as Instagram, Facebook, Twitter and Youtube(Muvid et al., 2024)

Social media is an online platform where users can easily participate, share, and create content including blogs, social networks, wikis, forums and worlds to express themselves as a form of identity. This social validation is very important for teenagers who are building their identity and self-esteem. As a result, they tend to spend more time on the platform to seek further appreciation and recognition, which ultimately increases their dependence on social media. However, excessive use of social media will make them addicted to always opening it, unable to force and divide their time so that it has an effect on health.(Rizqi et al., 2023). Many social media platforms use gamification elements to increase user engagement. Gamification



involves the application of game principles such as achievements (badges), levels, and challenges to encourage continued interaction from these social media users in using social media over time so that it affects their daily lives.

By consistently displaying engaging content, the platform's design ensures that users don't get bored quickly and keep coming back for more. This continued interest in tailored content can lead to repetitive and hard-to-stop usage behavior, reinforcing social media addiction. This is often referred to as FOMO, an intrapersonal communication phenomenon where someone feels worry, anxiety, and fear if they miss out on information on the media. For teenagers, who are at a vulnerable stage of development and are highly influenced by their social environment, this design can trigger and reinforce social media addiction, with significant impacts on their mental health, academic performance, and social relationships.(Muvid et al., 2024).

## 2. Solutions and Strategies to Overcome Social Media Addiction

Social media addiction has become an increasingly disturbing phenomenon among teenagers, so to overcome this problem, a comprehensive and patient approach is needed. The first step that can be taken is to limit the time spent on social media. Parents and educators can help teenagers set reasonable time limits, for example by utilizing the time-limiting features available on many modern devices or installing special applications to control screen time. In addition, creating a "gadget-free zone" at home or school can also be an effective strategy.

However, simply limiting access is not enough. It is important to fill the void left by social media with more rewarding activities, such as encouraging teens to explore new hobbies, join sports clubs, or take skills courses can open the door to richer and more fulfilling experiences than endless scrolling through social media feeds.(Dewanto et al., 2023). Education also plays a crucial role in addressing this issue. Teenagers need to understand the negative impacts of excessive social media use, from sleep disturbances to more serious mental health issues. The key is to teach teens how to use these platforms positively and constructively so that they can be a source of inspiration, learning, and self-development if used wisely.

Steps to overcome social media addiction, emotional support from parents, teachers, and people closest to them are very important, such as instilling characters that can support teenagers in processing information and time on social media. Character can also involve values, attitudes, habits, and actions that shape a person's identity. Here are some steps to form character, namely (1) Introspection, by understanding personal values, beliefs, and life goals. b. Assessing one's strengths and weaknesses, (2) Personal Responsibility, namely taking

responsibility for personal actions and decisions, (3) Learning from mistakes and developing resilience, (4) Ethics, by developing moral and ethical principles, and applying the values of goodness, honesty, and empathy, (4) Social Relationships, by building healthy and supportive relationships and learning from interactions with others for personal growth, (5) Education and Self-Development, by continuing to learn and develop skills and reading, taking courses, and seeking new experiences, (6) Empathy, by understanding and appreciating the feelings of others and developing the ability to empathize and communicate well.(Sitompul, 2024).

Ultimately, overcoming social media addiction in teens is not an easy or quick process, but with the right combination of strategies, patience, and consistent support, we can help young people find a healthy balance between their digital world and their real lives. Teenage development is influenced by parental supervision. Ho and Zaccheus stated that parents play a role in raising children and providing socialization to teenagers.(James & Kur, 2020). Family education has a central role in shaping children's character, especially through examples given, actions taken, and habits instilled, there are four ways parents can supervise children's internet use, namely: (1) Parents talk about media content while children are doing their activities (for example using smartphones); Parents can comment evaluatively or interpretively, or demand children in using smartphones to access the internet; (2) Parents prohibit children from interacting with others online, such as prohibiting the use of instant messages, email, playing games (peer-to-peer games), and downloading activities; (3) Parents carry out filtering activities or blocking certain content that is considered risky for children. This method involves the ability of parents to utilize software to filter their children's smartphones; (4) Parents check their children's smartphone access after the child uses the smartphone.(Aresti et al., 2023).

## **CONCLUSION**

The algorithms and design of social media platforms influence adolescents' social media use behavior and can lead to social media addiction in adolescents. The impacts of social media addiction are significant, including mental health issues such as anxiety and depression, decreased academic performance due to lack of focus and study time, and disruption in social relationships due to reduced face-to-face interactions. Therefore, it is important for parents, educators, and policymakers to raise awareness about healthy social media use and help adolescents develop strategies to manage their time on these platforms. Digital education, setting limits on gadget use, and support from the surrounding environment are needed to help adolescents navigate the digital world in a more balanced and healthy way.

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