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The Relationship Between Social Media Dependency, Mental Health, and Academic Performance Among Adolescents in Indonesia

***Benny Novico Zani[1], Faridah Mohd Said[2], Nisha Nambiar[3], Siti Sholihat[4]**

[1] Sekolah Tinggi Ilmu Kesehatan Raflesia, Indonesia. Email: bennynovico.phd@gmail.com
[2]Lincoln University College, Malaysia. Email: faridah.msaid@lincoln.edu.my
[3]Lincoln University College, Malaysia. Email: nisha@lincoln.edu.my
[4] Sekolah Tinggi Ilmu Kesehatan Raflesia, Indonesia. Email: sholihat.raflesia@gmail.com

Corresponding author's email: bennynovico.phd@gmail.com

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ABSTRACT

The use of social media has both positive and negative impacts on mental health and academic performance. However, little information in Indonesia regarding the effect of social media dependency on mental health and academic performance among adolescents. Thus, this study aimed to explore the relationship between social media dependency, mental health, and academic performance among adolescents in Depok, Indonesia. A cross-sectional study was carried out among adolescents aged 15-18 years and studied senior high school students in a sub-district in Depok, West Java. The scales used were the Social Media Addiction Scale-Student Form (SMAS-SF) Questionnaire scale, The Depression Anxiety Stress Scale (DASS), and the social media and academic performance of students (SMAAPOS). Of 200 adolescents in the intervention group, the mean age was 16.37 (SD+2.55), 60% male. Respondents showed a moderate level of social media dependency, with an average score of 88.43 (SD=24.53). Mental health score decreased from 21.37±7.78 and respondents showed moderate level of academic performance, with an average score of 90.21±37.24. social media dependency (r=0.241) and depression (r=0.405) were significantly associated with academic performance. Moreover, social media dependency (r=0.334) was negatively associated with mental health problems. Interventions for mental health promotion and prevention attempt to improve an individual's ability to regulate emotions, increase alternatives to risk-taking behaviors, foster resilience for coping with challenging events and adversity, and foster supportive social contexts and social networks.

Keywords: adolescent, social media addiction, mental health, academic performance

Introduction

The use of social media has both positive and negative impacts on mental health. The positive impact (benefits) of using social media, namely Facilitating social interaction, Access to a peer support network, Promote engagement and retention in services. Meanwhile, the negative impact (challenge) of using social media is the Impact on symptoms, Facing hostile interactions, and Consequences for daily life (1). In a survey of social media users with mental health, respondents reported that being able to share personal experiences about life with other people with mental health disorders and the opportunity to learn about mental health coping strategies from others were important reasons to use social media (1), to seek support and hear about other people's experiences via Twitter (2), mental health awareness campaign on Twitter by providing further support with inspirational posts and tips (3).

The intensity of the use of social media has an effect on higher stress levels in interacting with friends and family (4), the health and well-being of adolescents (5), and adolescent psychosocial development (6). The use of social media is often related to the development of behavior such as addiction among adolescents (7). Internet addiction affects adolescent mental health and academic achievement, such as being lonely, embarrassed, tired and sleep deprived. Another impact of social media addiction can cause someone to avoid their social responsibility, isolate themselves, lose social support, work and perform poorly at school (8), Depression, anxiety, and other mental health problems are also common. (9). Research on "addictive technological behaviors" showed a strong link between addiction to technology use and comorbid psychiatric disorders in 23,533 adults (average age 35.8 years, from 16 to 88 years old) through cross-section online surveys there is a positive correlation between demographic variables, symptoms of attention-deficit/hyperactivity disorder (ADHD), obsessive-compulsive disorder (OCD), anxiety, and depression over the use of addictive technologies namely social media and video games. Here the age factor seems to be inversely proportional to the addiction to the use of this technology (10).

The other problem of social media use is its influence on the academic performance of students because students are unable to manage between social media time and study time. The frequency of daily use of social media during lectures can be significant for decreased academic performance and health (11) or not significantly related to the Grade Point Average (12). Based on previous research, the factors that influence social media use on academic performance are socio-demographic characteristics, social networking site usage, social networking profile, average connections of students in their social networking site, number of communities/groups of students, frequency log-on to social networking service, favorite social networking site usage per session and social networking addiction (13). Another study confirmed the positive correlation between the frequency of using Facebook as a learning aid and the academic performance (point count) of students in their subjects where the use of Facebook in education had a positive effect on the teaching process. Students create groups on social media to communicate with teachers, teachers ask questions about learning materials, homework, exams, important schedule reminders, announcements, and many other course-related things. Students share and upload alternative sources of information they find on the internet, such as links to books, presentations, and video tutorials that they find useful. In addition to students using the "like" feature to show that the material shared is useful to them, the teacher also uses "likes" and

comments to highlight useful material or to point out material that is of poor quality. Uploaded links and files shared by teachers and other students allow easier access to useful literature (14).

According to a student study at China's Hangzhou Dianzi University, 97% said students use social media sites in class. And 88% of students feel disturbed by other participants who use social media (15). Another study showed that WhatsApp usage on social media showed no relationship with academic performance among Saudi medical students in both universities. However, the usage of WhatsApp could be cautioned to minimize social media addiction in various aspects of life including sleep. These findings shed light on curricular and instructional applications of social media platforms that may require a better understanding by educators for educational use. This study has negative correlations between WhatsApp use during academic activities (e.g. in class) and sleep quantity (16).

Internet usage time intensity in Indonesia was ranked fourth in the world by the average duration of use for 8 hours 51 minutes each day. This usage is dominated by social media activity in cyberspace with a percentage of users making up 49% of the population with the duration of use of social media for 3 hours 23 minutes of the day (17). The intensity of use of social media varies greatly for children, adolescents, and adults. But if we look at this phenomenon that is happening now, active users of social media are late adolescents or early adults aged 18-24 years. However, little information in Indonesia regarding the effect of social media dependency on mental health and academic performance among adolescents. Thus, this study aimed to explore the relationship between social media dependency, mental health, and academic performance among adolescents in Depok, Indonesia. This finding will provide a better understanding of the impact of social media addiction and could be one of consideration for government and schools to design a program to prevent mental health problems in the future.

Methods

Study Design and Setting

A cross-sectional study was carried out among adolescents aged 15-18 years and studied senior high school students in a sub-district in Depok, West Java. Data was collected from April to May 2022.

Sample

The sample size of the study population with a confidence level of 90%, a margin of error of 5%, a total population of 2.056.400 people and sample was 200 people. In this study, researchers only took the 2 most populous sub-districts of the 11 sub-districts in the city of Depok, namely Pancoran Mas, and Cimanggis sub-district.

Ethical consideration

The study has been authorized in compliance with ethical standards by an affiliated university's ethical committee. Patients were given informed consent forms and surveys to sign. Everyone who participated was assured of secrecy and the opportunity to decline or withdraw completely independently and without penalty at any moment.

Measures

The demographic datasheet reported age, gender, and educational level.

The scale used to measure social media addiction is the Social Media Addiction Scale-Student Form (SMAS-SF) Questionnaire scale. The SMAS-SF scale is a Likert-type scale with

5-point answer choices consisting of 29 items and 4 sub-dimensions. 1-5 items are included in the virtual tolerance subdimension; 6-14 items are in the virtual communication sub-dimension; 15-23 items are in the virtual problem sub-dimension and 24-29 items are in the virtual information sub-dimension. The highest score on the scale was 145, and the lowest was 29. A higher score indicated that the agent considered himself to be a "social media addict."

The Depression Anxiety Stress Scale (DASS) is a widely used instrument developed by (18) to measure anxiety, depression, and stress. The DASS-21 items are a set of three self-report scales designed to measure the negative emotional states of depression, anxiety and stress. Each of the three DASS scales contains 7 items.

The use of SMAAPOS (social media and academic performance of students) instruments adapts to the original SMAAPOS instruments from (19) which have been adapted into cross-cultural in Indonesia by researcher (20) from 22 items become 21 items.

Procedure

Prior to data collection, ethical approval was obtained from the affiliated university, which was followed by data collection. Participants provided written informed consent, and all information was handled in an anonymous manner. If any participants had questions as they went through the survey, the researcher was there to help them immediately.

Data analysis

Mean, standard deviation and frequency were used to describe descriptive data. Pearson correlation was used to identify the relationship between social media addiction, mental health, and academic performance. The statistical analyses were performed using SPSS for Windows (22.0), with 0.05 being considered statistically significant.

Results

Of 200 adolescents in the intervention group, the mean age was 16.37 (SD+2.55), with 60% male (Table 1).

Table 1 Demographic characteristics of study participants (n=200)

Variables	**n=200 (%)**
Age, Mean ± SD	16.37±2.55
Gender	
Male	120 (60)
Female	80 (40)
Education level	
Grade 1	120 (60)
Grade 2	60 (30)
Grade 3	20 (10)

Respondents showed a moderate level of social media dependency, with an average score of 88.43 (SD=24.53). Mental health score decreased from 21.37±7.78 and respondents showed a moderate level of academic performance, with an average score of 90.21±37.24 (Table 2).

Table 2. Social media dependency, mental health, and academic performance among adolescents (n=200)

Variables	Mean ± SD	Range
Social media dependency	88.43±24.53	35-105
Mental health	21.37±7.78	11-28
Academic performance	90.21±37.24	45-135

Table 3. Relationship between social media dependency, depression, and academic performance among adolescents in Depok, Indonesia

	Mental health	Academic performance
Social media dependency	0.334**	-0.241**
Mental health	-	-0.405***

Note: * p<0.05; **p<0.001, ***p<0.0001

Table 3 shows that social media dependency (r=0.241) and depression (r=0.405) are significantly associated with academic performance. Moreover, social media dependency (r=0.334) was negatively associated with mental health problems.

Discussion

This study found that the majority of adolescents had a moderate level of social media addiction. In this context, it was revealed that the prevalence of social media addiction among students in Singapore and India was 29.5% and 36.9%, respectively (21,22). According to the findings of a 2018 meta-analysis on internet addiction, the prevalence of internet addiction among medical students worldwide was 30.1%. (23). According to the findings of a 2017 meta-analysis, the incidence of internet addiction in Iran is modest (24). Social media have become a vital part of the lives of many students because they expose them to a vast array of opportunities, particularly within their field of study. However, these networks are like blades with two edges. If students do not regulate their use of these networks, they will become dependent on them and face many consequences, particularly with regard to their education.

This study found that social media addiction is significantly associated with academic performance. Similar to prior research, this study found that teenagers spend a significant amount of time per day using social media, which can have a negative impact on their study habits and academic performance (25,26). Another study validated the favorable link between

the frequency of using Facebook as a learning tool and the academic performance (point total) of students in disciplines where Facebook had a beneficial impact on the teaching process. Students build social media groups to communicate with teachers, and teachers post questions regarding course materials, homework, exams, essential scheduling reminders, and announcements. Students discuss and post alternative information sources, including links to books, presentations, and video tutorials, that they discover on the Internet. In addition to students using the "like" feature to indicate that the shared content is valuable to them, the teacher uses "likes" and comments to highlight useful content or to call attention to low-quality content. Links and files uploaded and shared by teachers and students facilitate access to important literature.

According to the theory of behavioral explanation, a person joins social networks for incentives such as escapist and entertainment purposes (27) A user's excessive use of these networks might result in addiction. Our findings are in line with those of (28). In this regard, (28) shown in a study that social networking addiction negatively affects academic achievement by causing academic procrastination, diminishing sleep quality, and raising academic stress. However, (29) stated that certain social networks, such as Twitter, can be utilized as a tool for learning by students and teachers. These networks can also boost the academic engagement of students and faculty. The problem with using social networks as an educational tool, however, is that excessive usage of social networks lowers academic engagement and student grades. Therefore, when using social networks, time management should be given great consideration. In reality, the improvement of students' academic performance is contingent on their reduced use of social networks (30).

This study revealed the relationship between mental health issues and academic performance. Previous research demonstrated negative connections between the use of WhatsApp during academic activities (e.g., class) and the quantity of sleep (31). Mental health issues are prevalent among college students and are associated with academic functioning in terms of academic year and academic achievement. In order to determine the association between mental health and academic achievement, it is required to review multiple past studies. There is a relationship between student mental health difficulties and academic functioning (represented in terms of academic year percentage [or AYP] and grade point average [GPA]) across academic departments at KU Leuven University in Leuven, Belgium, according to an e-survey of students. The extent of academic-function-related mental health illnesses influences the deterioration in student academy performance as measured by GPA (32).

Additionally, social media addiction was related to mental health issues. This finding is consistent with previous research indicating that social media use, particularly heavy use of intensity and time spent on social media platforms, appears to contribute to an increased risk of various mental health symptoms and poor well-being, particularly among young people (33), greater anxiety disposition (34), depression symptoms (35–37). Facebook addiction and intrusion are always co-occurring, and these labels are sometimes interchangeable, with the latter highlighting a more intense strain on social relationships. People who suffer from Facebook intrusion spend an excessive amount of time on Facebook, which disrupts their daily tasks and interpersonal interactions. Due to the similarities between Facebook addiction and Facebook intrusion, we might conclude that Facebook addicts are more susceptible to depression.

However, there are a number of limitations that need to be taken into consideration. It was not possible to determine with absolute certainty which of the variables in the study should be considered the cause and which should be considered the effect. Then, because the sample

was taken from the West Java region, we were able to rule out the possibility that the results were influenced by the quality of organizational assistance provided or other contextual variables, both of which need to be carefully evaluated. This allowed us to conclude that the quality of organizational assistance provided or other contextual factors did not play a role in the findings.

Conclusion

The current study demonstrates that social media dependency has a negative impact on mental health, and academic performance among adolescents in Indonesia. Interventions for mental health promotion and prevention attempt to improve an individual's ability to regulate emotions, increase alternatives to risk-taking behaviors, foster resilience for coping with challenging events and adversity, and foster supportive social contexts and social networks. These programs require a multi-level strategy with diverse delivery platforms – such as digital media, health or social care settings, schools, and the community – and diverse ways to reach adolescents, especially the most vulnerable.

Conflict of interest

None.

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