

THE INFLUENCE OF SOCIAL MEDIA ON ADOLESCENT MENTAL HEALTH: A LITERATURE REVIEW

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ABSTRACT

Introduction/ Background: Based on WHO data, as many as 10-20% of children and adolescents in the world experience mental health problems. It is estimated that 50% of mental disorders occur by the age of 14 and 75% by the age of 18. The most common disorders in children and adolescents are generalized anxiety disorder and depression. Social media users in Indonesia reach 150 million (56%) of the total population. In Indonesia, teenagers are the most popular social media users. The impact received from the influence of social media is the disruption of mental health, such as depression caused by cyberbullying. **Objective:** This study aims to analyze social media's influence on adolescent mental health—**method:** Method used in the narrative review with PRISMA 2020. The literature search in this literature review uses two databases: Google Scholar and ScienceDirect. The critical words of the Indonesian Language are the influence of social media and adolescent mental health. English keywords are social media influence and adolescent mental health. **Results:** The results of a study from 11 journals found that mental health problems owned by adolescents who use social media include emotional mental disorders, abnormal emotional symptoms, abnormal behavior problems, abnormal hyperactivity, and abnormal peer problems. Adolescent mental health problems mainly occur in adolescent girls. Based on the results of all studies, social media influences mental health problems experienced by adolescents. **Conclusion:** Social media is used by almost everyone in this world today. The majority of social media use is by teenagers. Social media hurts adolescent mental health. Teenagers must use social media wisely.

Keywords: remaja, media sosial, kesehatan mental

INTRODUCTION

Technology is everything that is used as a tool that can support human survival. In the beginning, technology made by humans was still simple technology. However, with the development of civilization, technology has also penetrated all aspects of human life, one of which is the most rapidly developing in communication. Communication itself has been defined as the most essential form of interaction, whereby by communicating, humans can meet their needs, know many people, and so on. (Yuniat, 2019)

In an advanced era, communication can not only be done face-to-face. Long distances are no longer an obstacle for humans to communicate. In the past, long-distance communication media could be used as print media, such as newspapers and correspondence through the post office. With technological advances in social communication or social media, information shared with the public can be readily accepted, practical, and much more efficient. In addition, the inevitable globalization is increasingly triggering humans to be able to create software that many people can easily use in sharing various desired information, such as Facebook, Twitter, TikTok, and also Instagram, which do have a function to be able to share information globally. (Cahyono, 2016; Yuniat, 2019)

With the acceptance of the concept of using social media globally, it is possible for various countries to also participate in making software with a similar idea and using different kinds of social media applications in one gadget. Indonesia is no exception; the large population makes Indonesia one of the targets of several social media application

makers to be able to market new applications. Social media users are not limited by age and time. Everyone, both children and adults, can have their own social media accounts, especially teenagers. Most teenagers use social media to get the latest information about their lifestyles. The increasing sophistication of gadgets using the internet has become inevitable; anytime and anywhere, everyone can surf freely in cyberspace.

Based on the We Are Social Hootsuite research results released in January 2019, social media users in Indonesia reached 150 million (56% of the total population), an increase of 20% from the previous survey's results. As for social media users on gadgets, there are as many as 130 million (about 48% of the population). (Andiarna et al., 2020)

In Indonesia, teenagers are the most popular social media users. According to Santrock (2007), adolescents transition from childhood to adulthood with various biological, cognitive, and socioemotional changes. The existence of this socio-emotional change is what makes adolescence a sensitive period for children. It is essential to pay attention to this because, at this time, adolescents are at the stage of finding self-identity and looking for pleasure. The function of social media is to expand social interaction, create dialogical communication between many individuals, and build personal branding. However, if it is not balanced with good self-control and time, you all get a harmful impact.

The impact received on individuals by the influence of social media is mental health disruption, such as depression caused by cyberbullying. The World Health Organization (WHO) in 2017 reported that 10-20% of children and adolescents worldwide experience mental health problems. It is estimated that 50% of all mental disorders occur by age 14 and 75% by age 18. The most common disorders in children and adolescents are generalized anxiety disorder and depression, respectively. In addition, excessive use of social media has a more direct impact on physical health, such as visual impairment in the eyes (nearsightedness), high blood pressure, low back pain, and obesity. The high use of social media by adolescents around the world has prompted the author to conduct research aimed at finding out the influence of social media on adolescent mental health. (Keles et al., 2020)

RESEARCH METHODS

This type of research uses *study literature* by examining ten journals related to the influence of social media on adolescent mental health. The articles that have been obtained are selected based on the time of publication within the last five years (2019 - 2023), published in the Indonesian language and the United Kingdom. The source of the article used is not only national articles but also several international research articles with the language used in the United Kingdom. The stages carried out in *the study literature* consist of identifying the focus review, developing the focus review, identifying relevant studies, mapping the data using the PRISMA Flowchart (*Preferred Reporting Items for Systematic Review and Meta-Analyses*), data extraction by compiling, summarizing, and reporting the results of the discussion which includes identification, screening, inclusion, and feasibility based on the findings of the paper.

LITERATURE SEARCH STRATEGY

1. Protocol and Registration

A comprehensive summary in the form of a literature review regarding the influence of social media on adolescent mental health. The protocol and evaluation of the literature review will use a flow chart to determine the selection of studies that have been found and adjusted to the purpose of the *literature review*.

2. Search Database

A literature review is a comprehensive summary of several research studies determined based on a specific theme: adolescent mental health. The literature search was conducted in December 2023. The data used in this study is secondary data obtained not from direct observation but from the research results that previous researchers have carried out. Secondary data sources can be obtained from accredited or non-accredited national and international journal articles about the influence of social media on adolescent mental health. The literature search in this *literature review* uses two databases: Google Scholar and ScienceDirect.

3. Keywords Used

Article or journal searches use *keywords* to expand or specify the search, making it easier to determine which articles or journals to use. Keywords use Indonesian Language and English. The critical words of the Indonesian Language are the influence of social media and adolescent mental health. English keywords are *social media influence and adolescent mental health*.

4. Inclusion and Exclusion Criteria

The inclusion and exclusion criteria section lists the strategies for searching for articles, such as using the PICOS *framework*. The strategy used to search for articles uses the PICOS *framework*, which consists of the following:

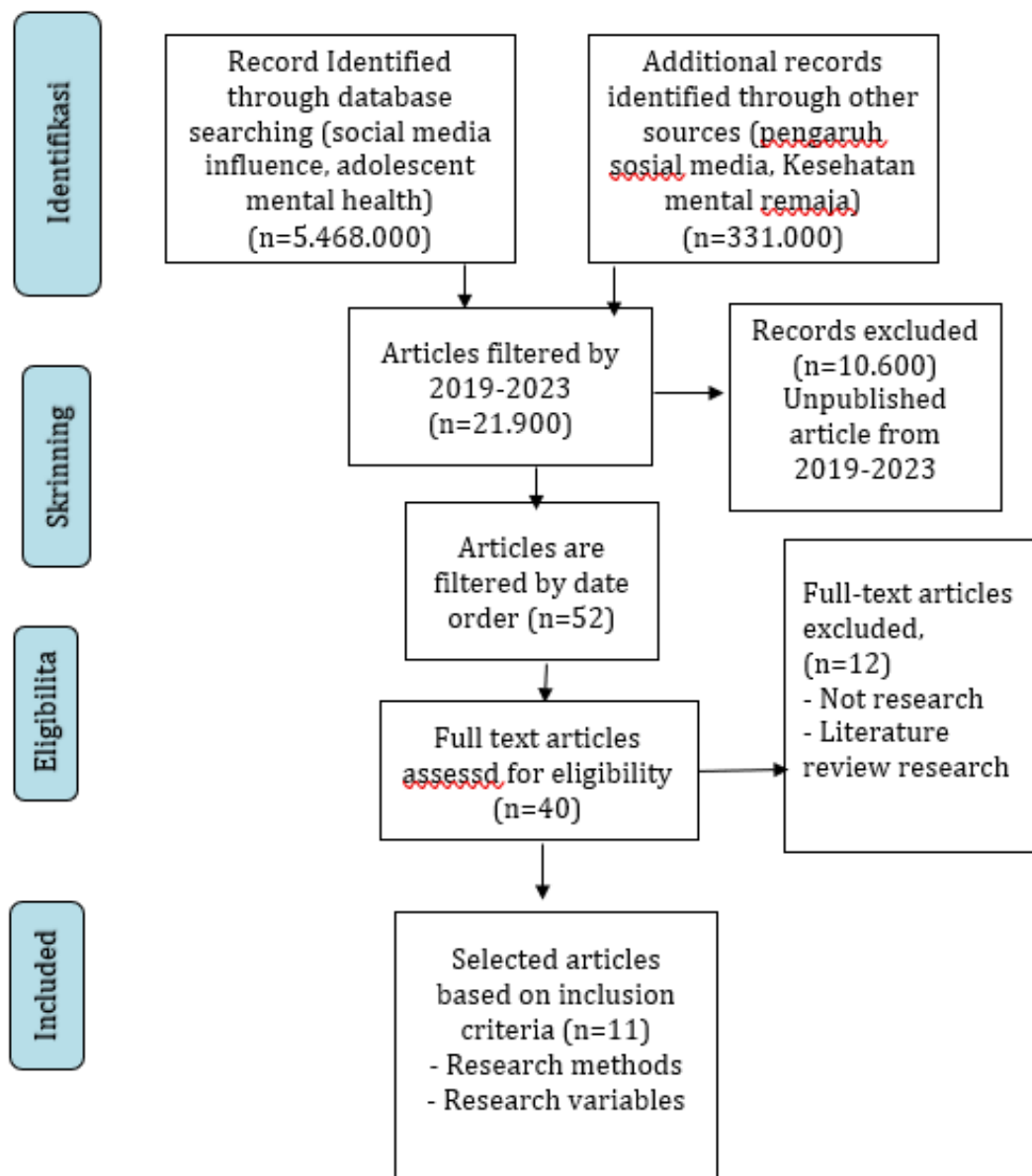
1. *Population/problem* is the population or problem that will be analyzed according to the theme determined in the *literature review*.
2. *Intervention* is the management of individual or community cases and the presentation of study management in accordance with the theme determined in the *literature review*.
3. *Comparison* is an intervention or other management that is used as a comparator if none can use a control group in the selected study
4. *Outcome* is the result or output from a *literature review study*.
5. *Study design* is a research design used in the article to be reviewed.

Table1. PICOS in Literature Review

Kriteria	Inklusi	eksklusi
<i>Population</i>	<i>teenager</i>	<i>Nonteenager</i>
<i>Intervention</i>	<i>No Intervention</i>	
<i>Comparison</i>	<i>No Comparison</i>	
<i>Outcome</i>	Pengaruh media sosial dan kesehatan mental remaja	
<i>Study design</i>	<i>analitik korelatif, cross sectional dan studi kohort</i>	

STUDY SELECTION

The results of the study selection can be depicted in a flow diagram) :



RESULTS AND DISCUSSION

No	Article Title	Author	Method	Result
1	The Influence of Social Media on Student Mental Health at One of the High Schools in Bandung City (2023)	Fazrian Thursina	Quantitative with correlation analysis using a <i>cross-sectional design</i>	The results of the study found that the influence of social media has a positive and significant effect on mental health; excessive social media causes anxiety, stress, depression, and loneliness in adolescents.
2	The Relationship between Social Media Use and Adolescent Mental and Emotional Problems at Muhammadiyah 5 Junior High School Bandung City (2023)	Ida Faridah, Emma Aprilia Hastuti, Indah Mentari.	Quantitative with correlation analysis using a <i>cross-sectional design</i>	The study results showed that the majority of social media use in the <i>Alert or alert</i> category was 46 respondents (60.5%), and the majority was in mental and emotional problems from the total difficulty score in the abnormal category, which was 55 respondents (72.4%). There is a significant relationship between the use of social media and the mental and emotional problems of adolescents in SMP Muhammadiyah 5 Bandung City.
3	Social Media Use With Adolescent Mental Health (2023)	Elis Yuhana, Sri Mariyati, Emilia Puspitasari Sugiyanto	This study uses a quantitative method of correlative analysis, a <i>cross-sectional approach</i>	A p-value of $0.000 \leq 0.05$ was obtained. The use of social media affects the mental health of adolescents at SMA N 8 Semarang
4	<i>Social Media Use and Adolescent</i>	Yvonne Kelly, Afshin	Representative, prospective	The magnitude of the relationship between

No	Article Title	Author	Method	Result
	<i>Mental Health: Findings From the UK Millennium Cohort Study (2019)</i>	Zilanawala, Cara Booker, Amanda Sacker	<i>cohort studies</i>	social media use and mental health problems was more significant in female adolescents than in males. For greater social media use, online harassment, poor sleep, low self-esteem, and poor body image were associated with higher symptoms of mental health problems.
5	The Effect of Twitter Social Media Use on Emotional Mental Health in Adolescents (2023)	Emma Aprilia Hastuti, Efri Widiyanti, Yulyani Asri Aryani	This study uses a quantitative method with a causal <i>associative type</i>	The results of the t-count study ($-6.175 < t\text{-table}$ (2.021), meaning that there is a negative influence of Twitter social use on adolescent emotional mental health with a p-value = 0.000 (p-value < $\alpha 0.05$). Twitter social media use has an effect of 28.0% on emotional and mental health; other social media influence the rest.
6	The Relationship between Tiktok Social Media Use and Adolescent Mental Health (2023)	Mardiana DM, Nova Mardiana dan Maryana	The design of this study is a quantitative research using the <i>cross-sectional method</i> .	The results of this study showed that there was a relationship between the use of TikTok social media and stress in adolescents (p = 0.017) and the use of TikTok social media with anxiety in adolescents (p = 0.004).
7	<i>The Effects of Social Media on Adolescent Mental</i>	Brandie Walton, Denise	This research method is a <i>cross-sectional</i>	The study results show a negative relationship between

No	Article Title	Author	Method	Result
	<i>Health (2022)</i>	Rizzolo	<i>study</i>	excessive time on social media, more than 2 hours daily, and emotional health.
8	Hubungan Penggunaan Media Sosial Dengan Kesehatan Mental Remaja Di SMK N 1 Sintoga (2021)	Amira Esti dan Rahmi Ramadhan	Type of quantitative research with analytical descriptive design with <i>Cross-Sectional Study Approach</i>	The study's results were obtained by respondents (51.7%), those who use social media in the problematic category (46.1%), and respondents with mental health in the poor category (difficult). It can be concluded that the use of social media is significantly related to adolescent mental health at SMK N 1 Sintoga, showing a p-value = 0.000.
9	Intensitas Penggunaan Media Sosial Dengan Kesehatan Mental Pada Remaja (2023)	Putri Tara Diva, Roshinta Sony Anggari dan Haswita Haswita	This study is a quantitative research with a <i>cross-sectional approach</i>	The results of the study showed that as many as 82 students with a low-intensity category experienced mental health disorders. The results of the Spearman rank test obtained a p-value = 0.125 > 0.05, indicating no relationship between the intensity of social media use and mental health in adolescents at SMP X Glenmore.
10	<i>Social Impact Of Social Media Use Intensity On Mental Health In The Form Of Apathic Attitude (2021)</i>	Fifit Alfiah, Shabrina Sifa Warohmah, Maria Fransiska Zehn Zehn Wahin, Maziyah Nur	The research design used is observational analytical research with a <i>cross-sectional design approach</i>	Hasil penelitian menunjukkan bahwa penggunaan media sosial mempunyai dampak terhadap remaja yaitu munculnya permasalahan

No	Article Title	Author	Method	Result
		Annisa, Agung Kurniawan		kesehatan jiwa berupa apatis. Nilai korelasi sebesar 0,528 dan nilai signifikansi $p(<0,001)<0,05$
11	<i>Social media use and perceptions of physical health (2019)</i>	Bridget Dibb	<i>Cross-sectional</i>	There is a relationship between social media use and health perceptions; this is shown by the study's results, namely in the use of social media such as Facebook, which shows that positive social upward comparisons when using social media can be positively and negatively associated. On the positive results, social media users feel hopeful and motivated, but at the same time, some users think that their physical health will get worse.

The results of the study were obtained from four themes based on the review of 11 journals conducted by the researcher, including the following:

A. Types and amounts of social media owned by teenagers

Based on the results of the review in Article 1, the results of the social media owned by the respondents were WhatsApp (99%), Instagram (91%), Line (45%), Twitter (65%), Tiktok (93%), YouTube (85%), Facebook (76%), and *e-Commerce* (54%) and as many as 80% of respondents every day update their daily activities on social media, this shows that adolescence is the age of seeking existence. Article 2 says that teenagers use >3 social media accounts for as many as 56 people (73.3%) and 1-3 social media accounts for as many as 20 people (26.3%)

B. Intensity of social media use in adolescents

Based on Article 2, most social media usage is in the *alert* category of 46 people (60.5%). Article 3 shows that most respondents use social media at a frequency of 120 respondents (41.2%). Respondents who use social media are sometimes at the level of as many as 116 respondents (39.9%). Then, a few respondents use social media, a rare number of 55 respondents (18.9%). Based on

the research results by Walton & Rizzolo (2022), there is a negative relationship between excessive time on social media, more than 2 hours per day, and emotional health. Different results were found in the study of Diva, Anggari, and Haswita (2023), showing as many as 82 students with a low-intensity category but experiencing mental health disorders. The results of the *Spearman rank test* obtained a $p\text{-value} = 0.125 > 0.05$, indicating no relationship between the intensity of social media use and mental health in adolescents at SMP X Glenmore. (Diva et al., 2023)

C. Use of Social Media By Gender

Article 3 states that most of the respondents are female. Article 4 says more than two-fifths of girls use social media for three hours or more daily compared to one-fifth of boys. Only 4% of girls reported not using social media compared to 10% of boys.

D. Mental Health Problems Experienced by Adolescents Using Social Media

Article 3 states that most of the respondents have problems with mental and emotional disorders, as many as 197 respondents (67.7%). A few respondents were healthy, as many as 94 (32.3%). Article 2 states that most of the emotional symptoms (E) belong to the abnormal category of 53 people (69.7%), behavioral problems (C) belong to the abnormal category of 37 people (48.7%), hyperactivity (H) belong to the abnormal category of 49 people (64.5%) and peer problems (P) belong to the abnormal category of 52 people (68.4%). Girls are more likely to have low self-esteem (12.8% vs. 8.9%), have dissatisfaction with their weight (78.2% vs. 68.3%) and dissatisfied with their appearance (15.4% vs. 11.8%). Girls were more likely to report fewer hours of sleep compared to boys (b7 hours, 13.4% vs. 10.8%) and reported frequent (27.6% vs. 20.2%) or almost all the time (12.7% vs. 7.4%) but were similar in reporting how long they were asleep. On average, girls have higher depressive symptom scores compared to boys. Based on Alfiah's research, et al (2021) said that the study's results showed that the use of social media had an impact on adolescents, namely the emergence of mental health problems in the form of apathy. (Alfiah et al., 2021)

E. The influence of social media on mental health

Based on the results of all studies, social media has a positive influence on mental health problems experienced by adolescents. Based on the results of the research by Esti and Ramadhan (2021), the results of the study were obtained by respondents (51.7%), the use of social media in the problematic category (46.1%) respondents with mental health in the poor category (difficult). Specifically, specific social media used by teenagers are Twitter and TikTok. Based on the results of Aprilia's research, et al. (2023) said that there is a negative influence of Twitter social use on adolescent mental and emotional health, and the results of Nasywa & Khoerunnisa (2023) research there is a relationship between the use of Tiktok social media and adolescent mental health at SMPN 2 Tirtajaya. (Aprilia Hastuti et al., 2023; Esti & Ramadhan, 2021)

Social media has become the most dominating media in disseminating the latest news about life in society. Social media is widely connected to web and mobile platforms that allow individuals to connect with others in a virtual

network, such as Facebook, Twitter, Instagram, or other networking apps. Nowadays, social media can be accessed by various groups of people, one of which is teenagers. A 2015 study of over 2,000 teens aged 13 to 17 showed that 92% of teens are online daily, with nearly 25% reporting constant social media use. The most prominent difference between adult and adolescent social media use is that the general purpose of adult social media use is to stay current and connect with close friends, while in adolescents, it is more about not limiting their posts to friends only. (Guinta & John, 2018)

The development of technology not only has a positive impact on social media use but also involves risks. Continuous use of social media can harm mental health. Feelings of envy, inadequacy, and dissatisfaction with life are among the effects that may occur due to too much and too long using social media passively, such as looking at other users' posts. (Guinta & John, 2018)

Excessive use of social media will affect students' learning behavior; these behavior changes are in the form of decreased learning motivation and reduced students' creativity at school. Excessive use of social media can interfere with their mental health, as evidenced by teenagers who use social media excessively, resulting in frequent depression, stress, anxiety, and feeling lonely. These mental disorders, if they occur for a long time, will cause physical problems, namely eye health disorders and disturbed sleep hours. The results of the research conducted (Thursday, 2023) found that student's mental health is caused by social media, even though students' mental health is in the moderate category where 53% of social media affects students' mental health, namely anxiety disorders, stress depression, and loneliness. This is important because adolescence is a transition period, so it is necessary to make preventive efforts to use social media wisely. (Agustiah, 2020; Thursina Fazrian, 2023; Yasin et al., 2022)

Teenagers who are addicted to social media will spend more time playing social media than interacting with family, friends, and even other relatives, which leads to a decrease in the number of social circles and makes stress levels higher. This kind of situation can cause a person to be in a state of no interaction with society or other social beings at all, which can cause depression. According to the World Health Organization (WHO), depression is a common mental disorder in society. Symptoms often include ongoing sadness, loss of interest, or excitement in previously enjoyable activities. Depression can also affect sleep patterns, reduce appetite, cause fatigue, and inhibit concentration. There is a significant impact of social interaction on social media platforms such as Instagram, Facebook, and WhatsApp on mental health, especially among adolescents. Research shows that the link between social media overuse and depression is related to factors such as sleep deprivation, decreased productivity, less time spent with others, and the emergence of negative feelings such as depression, gloomy mood, helplessness, and feelings of emptiness when not connected to the internet.

The use of social media by adolescents who do not pay attention hurts adolescent mental health in the form of depression, anxiety, and social isolation. Therefore, the use of social media must be very considered, especially the negative influence caused by social media. Social media is an internet media that makes it easy for its users to interact with other people; in addition to being able to have a substantial effect on its users, social media can also cause problems with adolescent mental health if it is not wise in its use, mental health problems that

arise include anxiety disorders and depression. Social media can have a positive and negative impact on the psychological well-being of its users, namely in the form of social support and social and emotional shyness and sensitivity. Negative impacts occur if there is excessive information that can cause emotional transmission, so social media users experience an increase in adverse psychological effects, namely less ability to control themselves against the use of social networks and poor time management. (Karinta, 2022; Rosmalina & Khaerunnisa, 2021; Widowati, 2020)

In this case, the level of social media use by adolescents should be used properly and wisely, such as paying attention to the duration/time of use. On the other hand, if teenagers cannot use it wisely, it will cause adverse effects such as neglect of assignments, laziness in studying, being quickly tired, and difficulty sleeping. There are many benefits to the use of social media. Still, social media can also hurt adolescents as mentioned by (Rosmalina, Asriyanti, and Khaerunnisa, 2021) that the wise use of social media can have a positive impact, such as making it easier to interact with people far away and can be used as a marketing medium. However, on the other hand, if you can't use social media properly, it will cause anxiety and also depression. Another mental health problem experienced by adolescents who use social media is apathy. Based on Alfiah's research, et al (2021) said that the study's results showed that the use of social media had an impact on adolescents, namely the emergence of mental health problems in the form of apathy.(Alfiah et al., 2021; Rosmalina & Khaerunnisa, 2021)

CONCLUSION

Teenagers use a variety of social media. Social media owned by teenagers include WhatsApp, Instagram, Line, Twitter, TikTok, YouTube, Facebook, and *e-commerce*. Based on the intensity of social media use, teenagers spend a lot of time using it. The gender that has a high intensity of social media use is women. Most teens who use social media have mental health issues. Mental health problems owned by adolescents who use social media include emotional and mental disorders, depression, abnormal emotional symptoms, abnormal behavior problems, abnormal hyperactivity, and abnormal peer problems. Adolescent mental health problems also mainly occur in teenage girls. Based on the results of all studies, social media has a positive and negative influence on mental health problems experienced by adolescents.

DAFTAR PUSTAKA

- Agustiah, D. (2020). Dampak Penggunaan Media Sosial Terhadap Perilaku Belajar Siswa. *Jurnal Bimbingan Konseling Islam*, 4(2), 181–190. <https://doi.org/10.29240/JBK.V4I2.1935>
- Alfiah, F., Warohmah, S. S., Fransiska, M., & Zehn, Z. (2021). Social Impact Of Social Media Use Intensity On Mental Health In The Form Of Apatic Attitude. *International Journal of Adolescence and Youth*, 1(2), 226–232.
- Andiarna, F., Prasetyaning Widayanti, L., Hidayati, I., & Agustina, E. (2020). Analisis Penggunaan Media Sosial Terhadap Kejadian Insomnia Pada Mahasiswa. *Profesi (Profesional Islam): Media Publikasi Penelitian*, 17(2), 37–42. <https://doi.org/10.26576/profesi.v17i2.26>

- Aprilia Hastuti, E., Widiyanti, E., & Aryani, Y. A. (2023). Pengaruh Penggunaan Media Sosial Twitter Terhadap Kesehatan Mental Emosional Pada Remaja. *Jurnal Keperawatan 'Aisyiyah'*, 10(1), 1–9. <https://doi.org/10.33867/jka.v10i1.353>
- Cahyono, A. S. (2016). Pengaruh Media Sosial Terhadap Perubahan Sosial Masyarakat di Indonesia. *Publiciana*, 9(1), 140–157.
- Diva, P. T., Anggari, R. S., & Haswita, H. (2023). Intensitas Penggunaan Media Sosial Dengan Kesehatan Mental Pada Remaja. *Jurnal Ilmiah Kesehatan Rustida*, 10(01), 37–45.
- Esti, A., & Ramadhan, R. (2021). Hubungan Penggunaan Media Sosial Dengan Kesehatan Mental Remaja Di SMK N 1 Sintoga. *Nan Tongga Health And Nursing*, 16(1), 25–33. <https://doi.org/10.59963/nthn.v16i1.72>
- Guinta, M. R., & John, R. M. (2018). Social Media and Adolescent Health. *Pediatric Nursing*, 44(4), 196–202.
- Karinta, A. (2022). Negative Effects of Social Media Use On Mental Health In Adolescents. *Media Gizi Kesmas*, 11(1), 307–312. <https://doi.org/10.20473/mgk.v11i1.2022.307-312>
- Keles, B., McCrae, N., & Grealish, A. (2020). A systematic review: the influence of social media on depression, anxiety and psychological distress in adolescents. *International Journal of Adolescence and Youth*, 25(1), 79–93. <https://doi.org/10.1080/02673843.2019.1590851>
- Rosmalina, A., & Khaerunnisa, T. (2021). Penggunaan Media Sosial dalam Kesehatan Mental Remaja. *Prophetic: Professional, Empathy, Islamic Counseling Journal*, 4(1), 49. <https://doi.org/10.24235/prophetic.v4i1.8755>
- Thursina Fazrian. (2023). Pengaruh Media Sosial Terhadap Kesehatan Mental Siswa Pada Salah Satu SMAN di Kota Bandung. *Jurnal Psikologi Dan Konseling West Science*, 1(01), 19–30.
- Widowati, I. R. (2020). Analisis Dampak Psikologis pada Pengguna Media Sosial. *Jurnal Penelitian Psikologi*, 9, 272–283.
- Yasin, R. Al, Anjani, R. R. K. A., Salsabil, S., Rahmayanti, T., & Amalia, R. (2022). PENGARUH SOSIAL MEDIA TERHADAP KESEHATAN MENTAL DAN FISIK REMAJA: A SYSTEMATIC REVIEW. *Jurnal Kesehatan Tambusai*, 3(2), 83–90. <https://doi.org/10.31004/jkt.v3i2.4402>
- Yuniat, U. (2019). *Komunikasi dan Multikulturalisme di Era Disrupsi: Tantangan dan Peluang*. Buku Litera.