

Research Article

The Mediating Role of Quality of Life in the Association Between Depression Literacy and Social Media Addiction

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Abstract

Social media has now become an inseparable part of modern human life. However, its improper use will increase the risk of addiction, which will hurt individual well-being. This study aims to examine the influence of depression literacy, quality of life, and social media addiction. This study used convenience sampling and involved 195 participants aged 17 to 40. The instruments used were the Internet Addiction-Revised (IAT-R), Depression Literacy (D-Lit) Questionnaire, and 12-item Short Form Health Survey (SF-12). In this study, quality of life was analyzed as a mediator variable between depression literacy and social media addiction. The results showed that depression literacy did not significantly predict quality of life ($\beta = -0.102$, $p = 0.062$, 95% CI [-0.418, 0.0364]). In addition, quality of life has a significant negative effect on social media addiction ($\beta = -0.633$, $p < 0.001$, 95% CI [-0.781, -0.538]). This study also found a significant indirect effect between depression literacy and social media addiction through quality of life as a mediator ($\beta = -0.113$, $p = 0.013$, 95% CI [-0.357, -0.053]). This finding indicates a full mediation effect, in which quality of life moderates the relationship between literacy and social media addiction.

Keywords: Internet Addiction; depression literacy; quality of life; mediation

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In recent decades, social media has become a part of people's lives nationally and globally. Even social media has been considered a lifestyle and a necessity of community life ([Gunawan et al., 2021](#)). Moreover, According to data reported by The Global Statistics in 2024, approximately 170 million people, equivalent to 61.8% of Indonesia's population, are active social media users. Among the various platforms, WhatsApp ranks first with a total of 168 million users ([Rahman et al., 2023](#)). Referring to the data above, internet usage has entered an excessive stage, which will later impact the emergence of misuse and other adverse impacts ([Gunawan et al., 2021](#)). Social media addiction is a psychological condition where a person is dependent on social media ([Pop-Jordanova & Loleska, 2021](#)). WHO revealed that the increase in social media addiction was initially triggered by COVID-19 several years ago, the source of which was "Enforcement of Restrictions on Community Activities" locally known as PPKM (Pemberlakuan Pembatasan Kegiatan Masyarakat) so that many activities shifted to online, one of which was social media platform ([Siste et al., 2020](#))

A study conducted on 615 respondents from the age range of children, adolescents, and adults throughout Indonesia showed that adolescents are the group with the highest social media addiction, with a percentage of 73%, followed by adults, with a percentage of 23%, the rest are children ([Gunawan et al., 2021](#)). It was also revealed that the prevalence of social media addiction

in Indonesia increased in adulthood by 14.4% from previous years ([Siste et al., 2020](#)). In addition, some studies reveal that men in adulthood are more susceptible to problematic addiction compared to women ([Benzi, et al., 2024](#)). It has been reported that many of those with social media addiction frequently access another internet addiction such as, pornography, gambling, online games, and so on ([Pop-Jordanova & Loleska, 2021](#); [Wood & Phil, 2021](#)). The impact of young adults who are moderately addicted to the Internet is reported to experience problems such as a lack of family involvement, impulsive feelings, and symptoms of depression ([Marzilli et al., 2020](#)). Another consequence of excessive internet addiction is the emergence of feelings of irritability, boredom, disappointment, and loss of self-ability when separated from the Internet ([Kurniasih, 2017](#)). Internet addiction is so influential in a person's life that a survey conducted by [Kurniasih \(2017\)](#) showed that people need Wi-Fi more than other things. Even when it was revealed that internet addiction was a problem, they (respondents) did not feel that this was a serious matter. They consider the Internet part of their lifestyle ([Kurniasih, 2017](#)).

The Internet has indeed become a part of human life. This statement is supported by one study that revealed a significant relationship between excessive internet use and a person's well-being ([Dalton & Cassidy, 2021](#)). A different study in the field of neuroscience showed that there were changes in several areas of the brain, especially the prefrontal cortex, when someone is addicted to the internet, which makes the brain less able to make decisions, pay attention, trigger impulsive behavior, and self-control ([Peng et al., 2022](#)). One experimental study revealed that groups with internet addiction showed higher depression scores than those without addiction ([Senormanci et al., 2014](#)). Cognitively, internet addiction can interfere with focus, decision-making, and meaningful memory repetition ([Keyan & Isa, 2023](#)). Even higher, it not only interferes with cognitive function but also weakens executive function, which is the function that regulates the brain as a whole ([Loh & Kanai, 2016](#)). The brain that frequently uses the internet is more active and leaves a mark up to 5 days later than the brain used for reading ([Loh & Kanai, 2016](#)). Knowing the factors that can cause risk and their prevention in adulthood needs to be focused on because, in general, it influences their ethics in social media, behavior, and easily shaped nature ([Dalton & Cassidy, 2021](#)). So, indeed, it takes long, continuous, and in-depth research related to this internet use ([Dalton & Cassidy, 2021](#)).

In addition, another study revealed that the emergence of internet addiction is triggered by the lack of family roles in terms of affection, such as paying attention and spending time together. This lack can lead to internal conflicts in children, especially in early adulthood, making them turn

to the internet to fulfil their need for affection ([Marzilli et al., 2020](#)). Furthermore, a study in Turkey found that individuals with divorced parents and a poor relationship with their family have, on average, more prolonged and excessive internet use than those with intact, harmonious families ([Kaya & Dalgıç, 2021](#)).

In relation to internet addiction and health literacy, a study demonstrated that limited literacy skills, particularly within the health domain, are correlated with a higher probability of hospital service utilization; this increased utilization subsequently elevates costs and adversely affects physical and mental health ([Bernstein et al., 2020](#)). Furthermore, health literacy encompasses depression literacy. Given the increasing prevalence of depression in society, there is a heightened necessity for an appropriate measurement tool ([Tehrani et al., 2022a](#)). Additionally, public attitudes toward mental illness are predominantly negative, especially when knowledge and beliefs regarding mental illness are insufficient; consequently, individuals are more likely to persist in these negative attitudes and to influence others similarly.

Therefore, it is necessary to increase public awareness to reduce stigma and discrimination against people with mental disorders, which in this case is depression ([Akinsulore et al., 2018](#)). So, to minimize public attitudes that can hurt people with depression, good mental health knowledge or literacy (especially depression) is needed. Mental health literacy includes knowledge and skills that discuss the biological, psychological, and social aspects of mental health to improve understanding of mental health and various mental disorders, reduce stigma, help recognize and prevent mental disorders, and facilitate help-seeking behavior. Depression literacy is the development of mental health literacy, which includes knowledge and skills.

Depression literacy covers knowledge about depression, including its causes, symptoms, treatment, skills to recognize depression, self-help abilities, and awareness of professional help ([Wahyuni & Nabila, 2022](#); [Wei et al., 2013](#)). Although scientific information about depression is widely available, public beliefs and misunderstandings about mental health contribute to ongoing stigma ([Kulwicka & Gasiorowska, 2023](#)). Individuals with high depression literacy better understand symptoms, causes, and treatment options for mental health disorders. This understanding helps them adopt adaptive coping strategies, reduce self-stigma, and seek professional help promptly. Managing mental well-being independently supports better quality of life, psychologically and socially.

A study of cancer patients found that knowledge of mental health improves quality of life ([Kim & Park 2024](#)). [Kim and Park \(2024\)](#) also confirmed this link in the general population. [Jafari et al.](#)

(2024) found that mental health knowledge correlates with depression knowledge; as it increases, so does understanding of depression. Low mental health and depression knowledge are tied to higher rates of depression, anxiety, and stress, which lower quality of life (Jafari et al., 2024). Based on this, our study hypothesizes that greater depression literacy improves coping strategies, which enhances life satisfaction and quality of life, ultimately reducing the urge for social media validation (social media addiction).

There is a visible relationship between depression literacy and internet addiction, as well as between depression literacy and quality of life. However, the dynamics among these three variables remain unclear. No previous studies have addressed these interactions. To clarify this, the present study investigates whether quality of life mediates the relationship between depression literacy and internet addiction. Specifically, we examine whether higher depression literacy leads to improved quality of life, which in turn reduces the risk of internet addiction. Depression literacy does not directly eliminate addiction. Rather, it functions as cognitive capital by enhancing individuals' sense of meaning and control, thereby reducing their impulse to seek instant gratification on social media. Thus, optimal quality of life acts as a buffer between psychological vulnerability and addictive behaviors.

Methods

Participants

This study used convenience sampling to collect data via an online survey administered via Google Forms. This non-probability approach was chosen to efficiently reach a large and geographically diverse population. To recruit participants, the survey link was distributed across various social media platforms and messaging applications, targeting Indonesian citizens aged 17 to 40. A total of 195 eligible individuals participated in this study (82.5% female; M age = 22.97 years, SD = 3.20; age range = 17–37 years).

Measure

Social Media Addiction

Social media addiction was measured using the Internet Addiction Test-Revised (IAT-R) developed by Mak & Young (2020) and then translated into Indonesian. The IAT-R has 20 items with three first-order factors: Excessive use and Neglect of work, Anticipation and Lack of control, Neglect of social life, and salience. Excessive use and Neglect work have six items, one of which

is "Saya merasa penggunaan internet saya lebih lama dari yang direncanakan."; Anticipation and Lack of control have seven items, one of which is "Saya mengutamakan untuk memeriksa pesan instan (contoh seperti dari WhatsApp, Telegram, dan sebagainya)."; and Neglect social life and Salient have seven items, one of which is "Saya merasa waktu luang yang digunakan untuk bermain internet mempengaruhi kinerja kerja." The IAT-R has six response options from 1 = Never to 6 = Always. The Indonesian version of the IAT-R is measured using the Rasch Model with a 1-factor or unidimensional model. This instrument has also fulfilled the unidimensional assumptions of the Rasch Model. It has good reliability and validity, as seen from the Person Separation Reliability value of 0.90 and Item Separation Reliability of 0.97.

Depression Literacy

Depression literacy was measured using the Depression Literacy Questionnaire (D-Lit) developed by [Tehrani et al. \(2022a\)](#) and then translated into Indonesian. D-Lit has 22 items with a five-factor and one-factor model. This study uses a one-factor model, with one of the item representations being "I feel that eating a lot or losing my appetite is a symptom of depression." Participants answered this instrument according to statements that described their understanding with response options ranging from 1 = Very inappropriate to 5 = Very appropriate. After being translated into the Indonesian version, the D-Lit instrument was analyzed using the Rasch one-factor model, resulting in two items that did not fit. DL22 "Saya merasa banyak selebriti yang menderita depresi." DL9 "Saya merasa efek terapi perilaku kognitif sama dengan efek obat antidepressan untuk depresi tingkat ringan hingga tingkat sedang," and DL 5 "Saya merasa orang mungkin bergerak lebih lambat atau menjadi gelisah karena depresi yang dialaminya" which has a negative point measure correlation value, meaning that it measures other than depression literacy. Therefore, after removing the three items, the Indonesian version of the D-LIT has 19 items with an internal consistency of item separation reliability of .99 and person separation reliability of .65. This instrument has also met the assumption of unidimensionality or a one-factor model as seen from the raw variance explained by measures value of 44.1% based on the Rasch model ([Bond et al., 2020](#)).

Quality of Life

This study used the 12-item Short Form Health Survey (SF-12) instrument developed by [Montazeri et al. \(2009\)](#), then translated into Indonesian to measure individual quality of life. SF-12 has a two-factor model, namely Physical Component Summary (PCS) and Mentality



Component Summary (MCS), consisting of 12 items (e.g., “*Saya merasa sehat secara fisik dan mental*”). In comparison, 8 of the 12 items are reverse scored (e.g., “*Saya merasa kurang berprestasi karena kesehatan fisik*”). This instrument has six response options that describe the intensity of the individual, namely 1 = Never to 6 = Always. Then, after the SF-12 was translated into Indonesian, the results contained one item, namely QOL_5 “*Saya merasa sakit saat bekerja di dalam atau di luar rumah,*” which had a negative point-measure correlation value, meaning it was not appropriate to measure the expected quality of life. Therefore, the Indonesian version of the Short Form Health Survey instrument has 11 items with an internal consistency of person separation reliability of .83 and an item separation reliability of .91. This instrument has also met the assumption of unidimensionality or a single-factor model as seen from the raw variance explained by measures value of 43.8% based on the Rasch model ([Bond et al., 2020](#)).

Procedure

The research procedure started with permission from the original authors to adapt the measurement instruments. The scales were translated into Indonesian and then back-translated. Experts reviewed items for semantic equivalence. A readability test involved five respondents. Data collection lasted 12 days, from July 17 to July 29, 2024. Convenience sampling was selected to facilitate quick, broad recruitment of participants. The questionnaire was hosted on Google Forms and shared via social media. Inclusion criteria required Indonesian citizens aged 18 to 40. From 225 submissions, 195 eligible participants were retained after screening.

Before accessing the survey, participants received an information sheet with study objectives and instructions. Electronic informed consent was collected from all respondents. Participants were assured of anonymity, confidentiality, and voluntary involvement. They had the right to withdraw at any time. The Ethics Committee of the Faculty of Social Sciences, Universitas Nahdlatul Ulama Indonesia, approved the protocol (Approval No. 249/DK.FIS/200.09.14/VIII/2024).

Data Analysis

Data analysis was conducted in three sequential steps. First, a Rasch measurement model analysis was performed using Winsteps version 3.73. While the exact item counts and scaling for the three instruments are detailed in the Measures section, this preliminary analysis aimed to evaluate unidimensionality, item fit, and reliability based on established Rasch criteria ([Bond et al., 2020](#)). Item and person fit were assessed using Infit and Outfit Mean Squares (MNSQ) statistics, with acceptable thresholds ranging from 0.50 to 1.50, which are deemed acceptable for

rating-scale measurement ([Wright & Linacre, 1994](#)). Reliability was considered adequate if the person and item reliability indices exceeded .70 ([Boone et al., 2014](#)). Upon confirming the model fit, the raw ordinal data from each scale were transformed into interval-level logit (log-odds) scores. This transformation ensures that the data meet the assumption of linearity required for subsequent parametric procedures ([Bond et al., 2020](#)).

Second, descriptive statistics and a Pearson correlation analysis were conducted to examine relationships among variables. The use of Pearson correlation was statistically justified because the logit values provided interval-level data, and preliminary assumption checks confirmed that the data distribution was approximately normal.

Third, a mediation analysis was performed using Jamovi version 2.6 (The Jamovi Project, 2025) to examine the mediating role of quality of life in the relationship between depression literacy and social media addiction. The mediation model was estimated using a bootstrapping approach with 5,000 resamples to accurately calculate the indirect effects and account for potential non-normality in the sampling distribution ([Hayes, 2022](#)). Statistical significance of the mediation effect was determined using 95% confidence intervals; the effect was considered significant if the confidence interval did not include zero.

Results

Preliminary Analyses

The descriptive statistical analysis and correlation matrix results are presented in Table 1, including mean values and standard deviations. All variables have significant correlations, both positive and negative. In particular, quality of life has a negative relationship with social media addiction ($r = -.651, p < .001$), while the relationship with depression literacy shows a positive correlation ($r = .175, p < .05$). Then, depression literacy has a negative correlation with social media addiction ($r = -.201, p < .01$).

Table 1
Descriptive statistics and correlation between variables

	M	SD	Quality of Life	Social Media Addiction	Depression Literacy
Quality of Life	0.483	0.883	—		
Social Media Addiction	0.369	0.909	-0.651***	—	

Depression Literacy	-0.107	0.426	0.175*	-0.201**	—
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Note. * $p < .05$, ** $p < .01$, *** $p < .001$

The Mediating Role of Quality of Life

We analyzed the quality of life as a mediator variable between depression literacy and social media addiction. Based on Table 2, we found that depression literacy significantly directly affects Quality of Life ($\beta = 0.179$, $p = 0.011$, 95% CI [0.069, 0.5366]). This means that the higher a person's depression literacy, the higher the quality of life reported, although the direction of this relationship seems uncommon and needs to be discussed further in the discussion. Furthermore, Quality of Life was shown to have a significant negative effect on social media addiction ($\beta = -0.633$, $p < 0.001$, 95% CI [-0.781, -0.538]), indicating that the better a person's quality of life, the lower the level of social media addiction. However, based on the results of statistical processing, the direct effect of depression literacy on social media addiction was proven to be insignificant ($\beta = -0.102$, $p = 0.062$, 95% CI [-0.418, 0.0364]).

An interesting finding is that depression literacy indirectly has a significant effect on social media addiction through quality of life as a mediator ($\beta = -0.113$, $p = 0.013$, 95% CI [-0.357, -0.053]). This indicates a full mediation effect that quality of life plays an important role in bridging the influence between depression literacy and social media addiction.

Overall, these findings indicate a significant mediation effect that depression literacy indirectly affects social media addiction through its effect on quality of life.

Table 2.
Path estimation and mediation models

Effect		β	p value	95% C.I. (a)	
				Lower	Upper
<i>Direct effects</i>					
Depression Literacy	→ Quality of Life	0.179	0.011	0.069	0.5366
Quality of Life	→ Social Media Addiction	-0.633	<0.001	-0.781	-0.538
Depression Literacy	→ Social Media Addiction	-0.102	0.062	-0.418	0.0364
<i>Indirect effect</i>					
Depression Literacy	→ Quality of Life → Social Media Addiction	-0.113	0.013	-0.357	-0.053



Discussion

Research on social media addiction and its relationship to quality of life is relatively abundant. However, there is still very little research that explores how it relates to depression literacy. The phenomenon of more someone understands a science, especially depression literacy, this depression literacy is like a double-edged sword; it can be a provision for preventing bad things in the future or a misleading self-diagnosis tool. The discussion on depression literacy that can cause individuals to become addicted to social media will be discussed in more detail in the next paragraph.

Depression Literacy and Quality of Life

The increasingly widespread self-diagnosis phenomenon among the younger generation of Indonesia shows how low mental health literacy is, especially related to depression. Many individuals identify themselves as depressed based on the understanding they gain through social media content or unvalidated online psychological tests. We suspect this can have two fatal consequences: 1) underestimating severe symptoms or 2) exaggerating conditions that are not appropriate without a firm basis. This context is in line with the findings of this study that low depression literacy worsens the quality of life because individuals who do not have sufficient understanding have difficulty facing psychological challenges healthily and appropriately.

This finding is in line with a study conducted by [Jafari et al. \(2024\)](#), which states that mental health knowledge has a positive relationship with knowledge of depression; in other words, the more someone understands health, the more they indirectly understand their knowledge of depression. Conversely, when knowledge of depression is minimal and mental health knowledge is also minimal, the rate of depression, anxiety, and stress increases which leads to a decrease in a person's quality of life ([Jafari et al., 2024](#)). This depression literacy discusses knowledge about depression, including its definition, causes, symptoms, treatment, skills for recognizing depression, self-help skills, and knowledge about seeking professional help ([Wahyuni & Nabila, 2022](#)).

Another study conducted by [Tehrani et al. \(2022b\)](#) found a significant positive correlation between depression literacy and quality of life. In the study, most participants had a poor understanding of depression literacy, which resulted in a lower tendency for quality of life. These results indicate that individuals with low levels of depression literacy may be less concerned about their health and tend to have unhealthy behaviors, which ultimately have a negative impact on their quality of

life. In addition, a significant longitudinal relationship was also found between literacy skills and depressive symptoms, where individuals with low health literacy were three times more likely to experience depression.

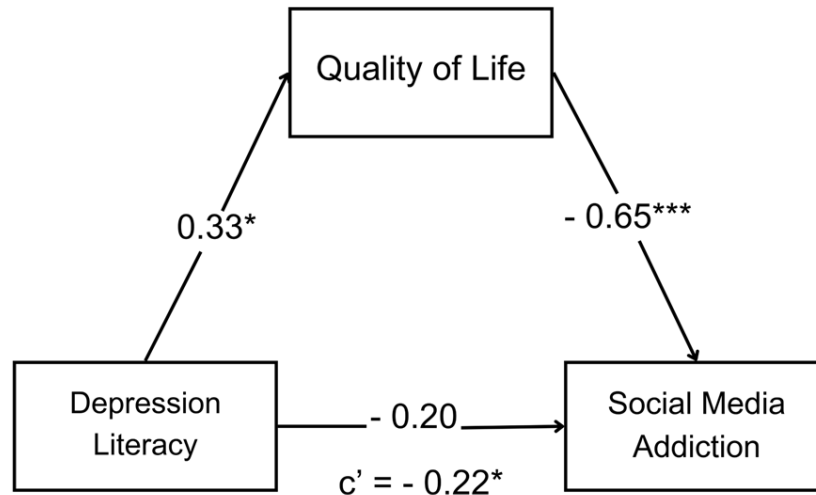


Figure 1. Mediation Model Diagram

The Mediating Role of Quality of Life

The results of the analysis show that depression literacy does not have a significant effect on social media addiction. This finding is fascinating, meaning that depression literacy may not be strong enough to change an individual's social media addiction behavior because understanding depression literacy does not necessarily directly change the way individuals manage their excessive use of social media.

However, in line with the researcher's hypothesis, we found that depression literacy has an effect on social media addiction mediated by quality of life. When depression literacy succeeds in improving quality of life, its impact on social media addiction can be felt in real terms. This means that individuals who understand depression can implement a healthy lifestyle, determine their limits from things that lead to addictive behavior, and manage emotional health to improve overall quality of life. In this condition, the need to "escape" to social media is reduced.

This can explain the paradoxical phenomenon that is often found in that many people are aware of the negative impacts of social media and are aware of their depression but are still trapped in the cycle of social media addiction. Knowledge alone is not enough but needs to be translated

into actions that can improve quality of life so that addictive behavior towards social media can be suppressed. Of course, in line with research conducted by [Bai et al. \(2022\)](#) on individuals with major depression, it was found that people with depressive disorders tend to use social media to get health information and are more active in building relationships online. This is undoubtedly a form of depression symptoms itself and the stigma associated with mental disorders, making individuals more likely to prefer online interactions. Furthermore, Bai also explained that those (individuals with significant depression) who spend more time online than outside activities with others become less productive due to excessive internet use and tend to have a worse Quality of Life.

Therefore, our research here can answer the research of [Bai et al. \(2022\)](#) above with an intervention to increase depression literacy, allowing individuals to understand the symptoms of depression so that they can find more effective coping strategies, improve their quality of life, and reduce dependence on maladaptive activities such as excessive internet use. As previously explained, this depression literacy discusses knowledge about depression, such as understanding, causes, symptoms, treatment, skills to recognize depression, self-help skills, and knowledge about professional help ([Wahyuni & Nabila, 2022](#); [Wei et al., 2013](#)). This study's limitations are the convenience sampling method, where respondents are selected based on their readiness to participate. As a result, the samples collected are less representative of the general population. For example, most respondents live outside the Jabodetabek area, and the age range of participants is mainly in the 17-23 year age group. However, this study uses criteria for individuals aged 17 to 40

Implication

Contextually, the majority of the sample still views mental health issues with stigma, especially in non-urban areas. Poor understanding of depression exacerbates this situation. Formal and informal education have not yet comprehensively addressed mental health issues. Furthermore, national government policies have not integrated mental health education into school or university curricula. Consequently, many young people are prone to life stress and maladaptive behaviors due to a lack of psychological knowledge.

Limitation & Conclusion

In this study, quality of life acts as a link between depression literacy and internet addiction. This means that the better a person's understanding of depression, the better their quality of life, which ultimately helps reduce the individual's tendency to experience internet addiction. This study uses convenience sampling and is dominated by young women and respondents aged 18-23 years, while the instrument is intended for ages 18-40 years, so it is less representative of the general population. Further research is recommended to use a broader and more diverse sample across generations.

Ethical Consideration

This study has fulfilled the principles of ethical provisions according to the Helsinki Declaration based on the approval of the ethics commission institution, namely the Faculty of Social Sciences, Nahdlatul Ulama University of Indonesia with number 249/DK.FIS/200.09.14/VIII/2024

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Competing Interests

The authors have declared that no competing interests exist.



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