The Effect of Self-Esteem on the Development of Narcissistic Behavior Among Students Engaged in Social Media

Merri Hafni
Medan Area University, Indonesia
hafni.merri1972@gmail.com

ABSTRACT: The increasing prevalence of social media usage among university students has raised significant concerns about its psychological effects, particularly in relation to self-esteem and the development of narcissistic behavior. As students spend more time engaging with social media platforms, behaviors such as seeking validation through "likes" and comments or frequently uploading self-promoting content have become more common. This study aims to determine and analyze the effects of self-esteem on narcissistic behavior in students at Medan Area University. The research design used in this study is survey research. The research sample consisted of 265 students of Medan Area University consisting of various durations of smartphone use. Data collection was carried out through two questionnaires measuring self-esteem and narcissistic behavior. This study was analyzed using simple linear regression. The results of the study showed that self-esteem had a significant positive effect on narcissistic behavior, the greater the narcissistic tendency. Students with low self-esteem were less likely to exhibit narcissistic behavior such as frequently uploading photos of themselves and seeking attention through "likes" and comments.

INTRODUCTION

Activities that were once done directly or in person are starting to move to social media, and the usage of social media has been grew rapidly in recent years (Alizamar et al., 2019; Afdal et al., 2019). The number of people using social networking sites (SNS) online reached approximately 2.46 billion in the year 2017, and it is anticipated that there will be approximately 3.09 billion people using social media all over the world by the time the year 2021 comes to a close (Stacy Jo Dixon, 2023). The survey data report on We Are Social published on the Data Indonesia.id site, it shows that in January 2023, there were 167 million individuals who were actively using social media in Indonesia, this number is equivalent to 60.4% of the total domestic population and it was also recorded that the number of internet users in Indonesia was recorded at 212.9 million users (Widi, 2023). And its shows that the large number of internet and social media users can reflect that society is connected increasingly and involved digitally. This phenomenon can indicate high technology adoption, changes in the way of people communicate and interact, and increased access to information through digital platforms. In addition, the prevalence of internet and social media use can also reflect a shift in culture and social behaviour towards a more integrated digital environment (Setiawan, 2018). The following is a list of facts regarding the growth of social media platforms on a monthly basis: Facebook (FB) has 2.45 billion active users, and Instagram (IG) has one billion active users (Stacy Jo Dixon, 2023). It is common for people to use social media because it provides them

with a unique experience that they cannot obtain in any other setting (Engineering, 2019). When it comes to mental and social well-being, social media is like a double-edged sword since it offers its users a multitude of advantages, but it also has the potential to have adverse effects if it is utilised in an excessive manner (Müller et al., 2016; Sandjaja & Syahputra, 2019; Syahputra et al., 2019). This is especially true for those who use social media.

Based on the survey, results of the Indonesian Internet Service Providers Association (APJII), many teenagers, both male and female, seek the attention of many people by sharing all the photos of their activities on social media. Research shows that teenagers are the age group that accesses social media the most compared to other age groups. The proportion of the 13-18 age group reached 99.16% in 2021 to 2022 (APJII, 2022). Nowadays in digital era, social media has become an integral part of the lives of teenagers and school students. Furthermore, the survey results published on the Databook's site strengthen the increase in social media usage, conducted by Global Web Index (GWI), showing that Generation Z teenagers tend to prefer using the Instagram social media application. This is illustrated by 24% of the 180,852 respondents aged 16-64 who were part of the Q4-2020 survey in 47 countries from various regions choosing the Instagram application as the most preferred social media (Pusparisa, 2021).

Data obtained by Napoleon Cat (2023), recorded 113,396,500 individuals using Instagram in Indonesia, which is equivalent to 40.4% of the total population of this country. The majority of them are women, with a percentage of 55.6%. The largest group of users are individuals aged 18 to 24 years, which amount to 43.4 million people. The most significant difference between male and female users is in the 18 to 24 age group, where women have a higher number that is, around 18,500,000 individuals. The Instagram platform is the third most frequently used social media application with 42.3% after YouTube and Facebook in 2019 to 2020 (APJII, 2020).

Although Instagram offers many social benefits, such as connectivity with friends and creative expression, there are concerns about how Instagram use can affect students' psychological development, especially in terms of self-esteem and narcissistic tendencies. McQuail (2010) the relationship between narcissistic behavior and the intensity of social media use is also seen in the motives of users' self-identity to increase self-confidence, such as changing profile pictures, being more active, updating status more often, and expressing themselves.

Narcissistic is a term that refers to characteristics or behaviors that characterize someone with excessive self-love, a very large ego, and a tendency to seek excessive recognition or attention. People who have narcissistic traits tend to be very self-focused, have a high view of themselves, and may lack empathy for the feelings of others (Hidayah et al., 2022). The tendency for narcissistic behavior has the characteristics of people with narcissistic personality disorder tend to want excessive attention and admiration for themselves. They prefer to show off their advantages excessively and believe that they are the only people who are superior than the others (Sari, 2021).

The impact of narcissistic disorder itself includes lack of empathy for others, arrogant behavior, envy, desire to be treated specially, always seeking attention and appreciation, fear of failure, and sensitivity to criticism. People who sometimes experience narcissistic personality disorder often feel disappointed with themselves, look for people who are considered ideal, and have difficulty in establishing relationships with others. When they feel that there is someone who can compete with them, they tend to feel angry and try to eliminate them (Sari, 2021). According to (Clarke et al., 2015) narcissistic tendencies can be influenced by one factor, namely the level of self-esteem. The overall assessment of an individual towards himself, which includes how the individual accepts or rejects himself, how much he believes that he has the ability, is important, successful, and valuable, is the core of self-esteem where self-awareness and feelings towards oneself can form positive or negative assessments (Hidayah et al., 2022).

A person's self-esteem will not be formed if the individual does not want to respect themselves. Self-esteem is not something that can be sold or bought, in this case it can be concluded

that the high or low self-esteem of a person is not obtained because the individual sells or buys it, and cannot even be determined by the value of currency. A person's self-esteem comes from the way they learn from the experiences they go through by respecting and treating themselves. Self-esteem is one aspect that determines a person's success with their social environment (Widodo & Prastiti, 2013). How people interact with their environment and how they make social adjustments depends on how individuals assess themselves. People with high self-esteem will feel satisfied with their own abilities and feel positively appreciated by the people around them. This creates a feeling of pleasure in the individual, so that they can easily adapt to their social environment. According to Coopersmith (1981), attachment figures play an important role in increasing an individual's self-esteem (Sugeng Widodo, 2013). In addition, self-esteem is a crucial factor in shaping a person's behavior, because self-esteem can affect the thinking process, decisions taken, and individual goal values (Apsari, 2013). Low or high self-esteem in individuals is determined by several factors, Coopersmith (1981) identified one of the factors that determines an individual's self-esteem as the respect, acceptance, and attention that the individual receives from attachment figures (Ratna, 2018).

In line with Wahyuni et al. (2022) findings regarding the relationship between self-esteem and narcissistic tendencies, it is very related and this is very much reflected in the behavior of Instagram users who have experienced very significant changes, which we can see today some individuals who previously did not pay much attention to their appearance when going to somewhere. however, now they show great interest in appearance when visiting places that are popular on Instagram. They often imitate the photo style of famous Instagram users, commonly referred to as celebgrams, to look fashionable. Currently, when gathering in a place, individuals no longer discuss many topics of conversation, but are busier with their respective gadgets to take photos, edit them, and upload them to Instagram. This behavior reflects a tendency towards narcissistic behavior, both consciously and unconsciously. As a highly visual platform, Instagram gives students the opportunity to show themselves and create the image they want to present to the world. This raises the question of whether the use of Instagram contributes to the development of healthy self-esteem or actually encourages narcissistic tendencies in students in vocational schools, judging from observations made in the field by Dewi & Ibrahim (2019), it can be concluded that some students use Instagram social media not only as a means of communication, but also as a means to seek attention and gain appreciation for the activities they do on the platform. Students routinely upload photos or videos on Instagram with the aim of getting attention, sympathy, or comments from other social media users. In this context, their behavior can be considered as an act of narcissism, which indicates excessive self-love, great attention to oneself, and the need for appreciation.

Self-esteem is a vital psychological aspect of adolescent development. It influences how students assess and understand themselves, as well as how they interact with the world around them. Students with positive self-esteem tend to have stronger beliefs about their abilities, higher self-satisfaction, and are more likely to cope with challenges (Refnadi, 2018). On the other hand, narcissism is a personality trait that reflects a sense of self-superiority and a drive for attention and recognition. This study is important to conduct because the increasing use of social media, especially Instagram, among students has shown a significant influence on psychological aspects, including self-esteem levels and narcissistic behavior tendencies. By understanding the relationship between self-esteem and narcissistic behavior, this study aims to analyze the influence of self-esteem on narcissistic behavior in students of Medan Area University.

METHODS
Design
This study reveals the impact of self-esteem on narcissistic behavior among Instagram-using students at Medan Area University. Using a quantitative survey method, this study involved

systematic participant recruitment and data collection, in accordance with the approach outlined by Wardhana (2022). Through numbers and graphs, the results of the study are expected to be clearer and easier to understand.

Participants

The research sample consisted of 265 students from Medan Area University, representing a diverse group in terms of daily internet usage habits. Respondents were categorized based on the average amount of time they spent using the internet each day. Specifically, 58 students reported spending less than one hour per day online, reflecting a relatively minimal engagement with digital platforms. A total of 37 students indicated daily usage of 1–3 hours, suggesting moderate interaction with the internet. The largest group, comprising 65 students, reported spending 3–6 hours per day online, which aligns with significant digital activity typical of modern student life. Additionally, 60 students stated they used the internet for 6–9 hours daily, demonstrating high levels of connectivity. Finally, 45 students reported daily usage exceeding 9 hours, indicative of intense engagement with digital platforms, possibly for academic, social, or entertainment purposes. This distribution highlights the variation in internet usage patterns among students, providing a rich dataset for exploring the relationship between online activity, self-esteem, and narcissistic behavior.

Ethics Approval

All procedures performed in this study involving student participants strictly adhered to the ethical standards established by Medan Area University and were conducted in compliance with relevant national and international ethical guidelines for research involving human subjects. Prior to participation, all students received detailed information about the study's objectives, procedures, potential risks, and benefits, ensuring they could make an informed decision. Written informed consent was obtained from all participants, guaranteeing their voluntary participation. Participants were assured of their right to withdraw from the study at any time without any repercussions. Confidentiality and anonymity of their personal information and responses were strictly maintained throughout the research process.
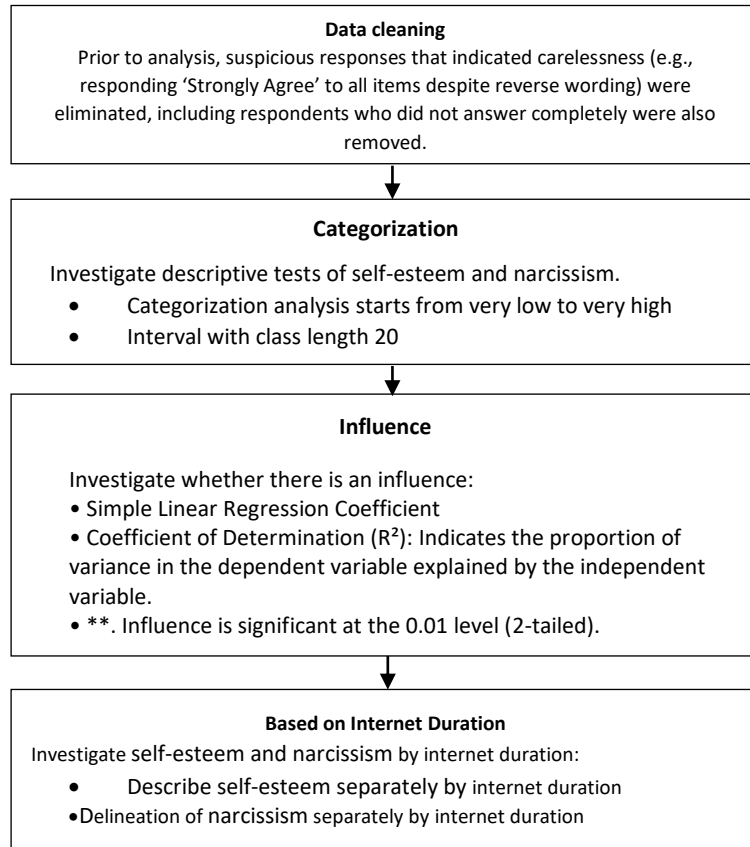
Instruments

Data were collected through a Likert-scale questionnaire, including two main instruments: Self-Esteem Inventory (SEI) developed by Coopersmith (1981), the SEI evaluates four aspects of self-esteem through 35 items. The self-esteem scale uses a Likert scale, with four answer choices: very appropriate (SS), appropriate (S), inappropriate (TS), and very inappropriate (STS). Each item in the scale has two types of statements, namely favorable statements and unfavorable statements. A good instrument is one that has a good reliability test value (Ifdil et al., 2022; Syahputra et al., 2024). Reliability test according to Bandur (2018) measures the consistency of research results in various conditions. This includes assessing the consistency of scores on each questionnaire item to ensure that the measurement scale remains accurate and reliable. The results of the analysis show a Cronbach's Alpha value on the self-esteem scale of 0.953, which indicates that the instrument used is very reliable. The Narcissistic Personality Inventory (NPI-16) developed by Ames et al. (2006), while the NPI-16 assesses seven aspects of narcissism with 20 items. The narcissistic scale uses a Likert scale, with four answer choices: Very appropriate (SS), appropriate (S), inappropriate (TS), and very inappropriate (STS). The results of the analysis showed a Cronbach's Alpha value on the narcissistic scale of 0.943, indicating that the instrument used was very reliable.

Data Analysis

The collected data underwent comprehensive analysis utilizing the Statistical Package for the Social Sciences (SPSS) software version 20.0, developed by IBM Corporation (2011). The analytical

approach employed the Pearson product-moment correlation technique, a robust statistical method designed to explore and quantify the relationships between different variables. This method allows for a nuanced examination of the interconnections and associations within the dataset, providing a rigorous foundation for understanding the dynamics between social media addiction and relational aggression behaviour among the sampled university students at Medan Area University.

Data cleaning

Prior to analysis, suspicious responses that indicated carelessness (e.g., responding 'Strongly Agree' to all items despite reverse wording) were eliminated, including respondents who did not answer completely were also removed.

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Categorization

Investigate descriptive tests of self-esteem and narcissism.
- Categorization analysis starts from very low to very high
- Interval with class length 20

↓

Influence

Investigate whether there is an influence:
• Simple Linear Regression Coefficient
• Coefficient of Determination (R^2): Indicates the proportion of variance in the dependent variable explained by the independent variable.
• **. Influence is significant at the 0.01 level (2-tailed).

↓

Based on Internet Duration

Investigate self-esteem and narcissism by internet duration:
- Describe self-esteem separately by internet duration
- Delineation of narcissism separately by internet duration

RESULTS AND DISCUSSION
Results

The results of the analysis of the influence of self-esteem on narcissistic behavior were tested using simple linear regression analysis. This method assesses the extent to which self-esteem (independent variable) influences narcissistic behavior (dependent variable) among students. Based on the distribution of questionnaires measuring self-esteem and narcissistic behavior among 265 students, a general overview of the results is provided in the following table.

Table 1. Description of Self-Esteem

Categories	Self-Esteem			Narcissistic		
	Intervals	Frequency	%	Intervals	Frequency	%
Very High	>88	123	46.4%	>50	57	21.5%
High	66 - 87	105	39.6%	38 - 50	116	43.8%
Moderate	44 - 65	37	14%	25 - 37	92	34.7%
Low	22 - 43	0	0%	13 - 24	0	0%
Very Low	<21	0	0%	<12	0	0%
Total		265	100%		265	100%

Based on the results of the table above, it can be seen that from all the respondents tested, amounting to 265 people, it is known that the number of students who have very low Self-Esteem

is 0 students or 0%%. low level is 0 students or around 0%, moderate level is 37 students or around 14%, high level is 105 students or around 39.6%, and very high level is 123 students or around 46.4%. The table above shows that the level of Self-Esteem of students is generally in the Very High category. Meanwhile, the Narcissistic behavior of students in general is in the High category with a percentage of 43.8%.

Table 2. Simple Regression & Determinant Coefficient

Variables	B	Std. Error	T	Sig	R	R Square
(Constant)	22.258	2.602	8.556	.000	.471ᵃ	.221
Self-Esteem	.207	.030	6.808	.000		

Table 2 shows that the significance value for self-esteem is 0.001 and for narcissism is 1.802, both of which meet the criteria for normal distribution, so they are valid for further analysis. In addition, the linearity test with an F value of 46.354 confirms the existence of a significant linear relationship between self-esteem and narcissism. Simple linear regression is used to build a probability model that relates two variables, with one as the independent variable and the other as the dependent variable. The coefficient of determination (R^2) then measures how well the regression model can explain the variability in the data, describing the proportion of the variability of the dependent variable that can be explained by the independent variables in the model. Finally, the results of the hypothesis test through simple linear regression indicate that there is a significant influence between self-esteem and narcissistic behavior, with a coefficient of 0.207.

The coefficient of determination (R^2) of 0.221 indicates that 22.1% of the variability of narcissistic behavior can be explained by self-esteem, while the rest is influenced by other factors. This confirms that the relationship between self-esteem and narcissism has an influence, although moderate. Then, the results of this study also show the relationship between the duration of gadget use and the influence of students' self-esteem on narcissistic behavior. The duration of gadget use has a significant influence on self-esteem and narcissistic behavior, especially among adolescents and college students. This study shows that excessive gadget use, especially social media, can affect the way individuals view themselves. When someone is constantly exposed to content that shows the ideal life and achievements of others, they tend to compare themselves to those standards, which can result in decreased self-esteem.
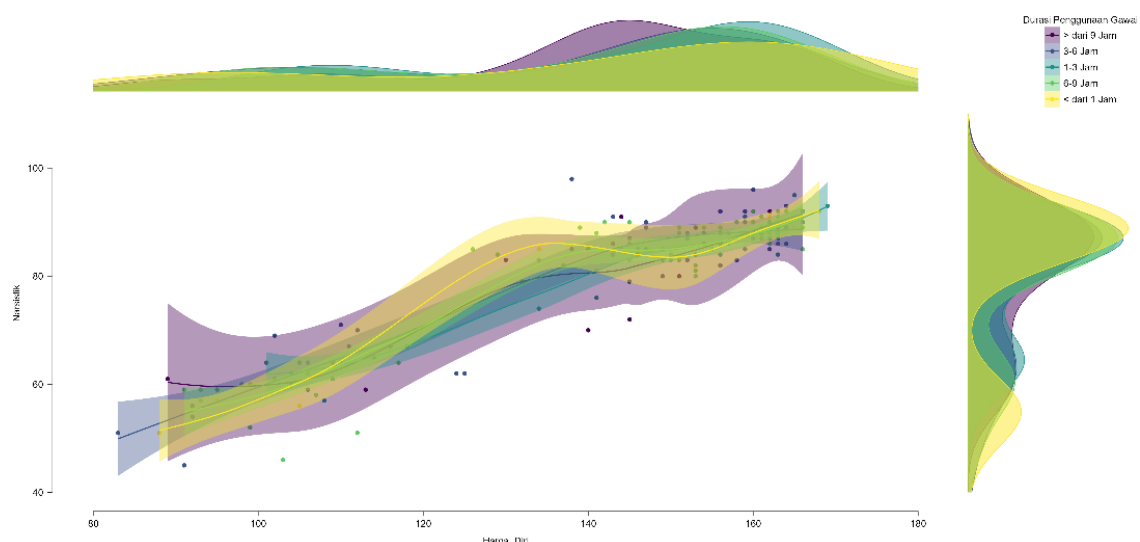

Figure 2. Distribution of Self-Esteem and Narcissistic Behavior with Duration of Gadget Use.

On the other hand, intensive use of social media can also encourage narcissistic behavior, where individuals feel compelled to show a perfect self-image and seek validation from the number

of "likes" or comments they receive. Therefore, understanding and managing the duration of gadget use is important to prevent negative impacts on self-esteem and narcissistic tendencies. A balanced approach and digital awareness can help individuals maintain their mental health in an era of increasingly advanced technology.

Discussion

The results of the study showed that there was a significant influence between self-esteem and narcissistic behavior. In line with previous research conducted by Dian Veronica & Febrieta (2022), there is a significant positive correlation between self-esteem and narcissistic behavior in Instagram user students at Bhayangkara University, Jakarta Raya. The study stated that the initial phenomenon that showed that respondents tended to be narcissistic, they would be interested and like to show off themselves on social media, especially on Instagram, excessively. They often post photos and videos on Instagram in the hope of attracting other people's attention and collecting lots of likes. Respondents seek praise and attention, and feel jealous of what others have. They feel happy when they get likes and positive comments, which increases their feelings as great and special individuals. As a result, they tend to take advantage of others to fulfil their personal desires. Coopersmith and Gilberts (1982) stated that "self-esteem is an individual's assessment of themselves, involving attitudes of acceptance or rejection, as well as beliefs in ability, meaning, success, and self-worth" (Apsari, 2013). This assessment includes acceptance or rejection, where individuals feel capable, successful, meaningful, and valuable based on their personal standards. Thus, self-esteem includes self-assessment that can be positive or negative, influenced by interactions with others around them and the attitudes and treatment received from others (Haryati, 2014).

The correlation coefficient indicates that there is a significant positive relationship between Self-Esteem and Narcissistic Tendencies, which means that the higher a person's Self-Esteem, the greater their narcissistic tendencies. Conversely, if Self-Esteem decreases, then narcissistic tendencies will also decrease. This relationship has a weak strength, but still shows the possibility of a relationship between self-esteem and narcissistic tendencies.

This is in line with research conducted by (Najib et al., 2018) which supports the hypothesis that there is a correlation between narcissistic selfie behavior and self-esteem levels, in accordance with the findings of Clarke et al. (2015) which indicate that one of the factors that influences narcissistic tendencies is self-esteem. Narcissistic selfies affect the level of self-esteem of adolescents. The analysis shows that adolescents with high levels of narcissism tend to have high self-esteem, while adolescents with low levels of narcissism tend to have low self-esteem. This indicates that the higher the intensity of narcissistic selfies in adolescents, the higher their level of self-esteem.

Numerous research indicate that individual differences in narcissism are positively correlated with various online social networking behaviours (Malik & Khan, 2015; Ryan et al., 2014; Wang et al., 2012). A social media post with photos can influence individuals and evoke unfavourable feelings in viewers (Rozgonjuk et al., 2020), which can subsequently foster narcissistic attitudes in them. Narcissists are frequently linked to individuals who boast, capture images, and subsequently display them on social media to enhance their self-perception and emphasise attributes like strength and physical attractiveness (Andreassen et al., 2017; Ifdil et al., 2017). Research (Mohan, 2018) indicates that women exhibit greater concern for self-image and beauty than men while engaging in activities on Facebook. Women post five times more photographs, maintain larger social networks, and allocate more time to Facebook compared to men (Mohan, 2018; Panek et al., 2013). Individuals who pursue validation through the opinions of others have significantly more active social media presence, particularly regarding photographs (Mohan, 2018). Moreover, self-esteem and emotions

expressed on social media significantly influence the socio-emotional requirements of narcissism (Choi, 2018).

The fourth finding indicates that students identified as narcissistic and addicted to social media spend over six hours per day online, and those with more than six social media accounts tend to exceed this duration, contributing to their addiction to social media. Research by (Kibona & Mgaya, 2015) indicated that 48% of respondents utilise social media for approximately 5-7 hours daily, sometimes without awareness of the time spent. Children in Taiwan utilise a smartphone or tablet for 11 hours weekly (Chang et al., 2019). Research conducted (Resti, 2015) indicated that 98% of 50 respondents utilised social media platforms, including Instagram, Twitter, Facebook, YouTube, Photo Editor, and Online Games, for amusement purposes. Respondents consistently engage with this application for over 5 hours daily. Simultaneously, up to 10 respondents allocated time to engaging with social media rather than interacting with others. Excessive internet usage is attributed to inadequate self-control, which hinders individuals' ability to regulate their daily internet time (Özdemir et al., 2014).

Implications

The findings of this study have significant implications for university students who are active on social media. Since self-esteem is found to influence narcissistic behaviors, universities can implement programs aimed at improving students' self-esteem in more constructive ways. This could involve workshops on self-worth, mental health awareness, and resilience-building activities that promote a balanced sense of identity. Counseling services at universities can provide students with strategies for managing their social media habits, fostering healthier online behavior, and discouraging excessive need for validation through likes or comments. Additionally, creating a campus culture that emphasizes real-world connections and self-reflection, rather than relying on social media for self-worth, can help reduce narcissistic tendencies. By focusing on these aspects, universities can support students in maintaining a healthier relationship with social media and improve their overall well-being.

CONCLUSION

This study revealed that self-esteem influences the tendency toward narcissistic behavior among Instagram-using students at Medan Area University. Students with low self-esteem are less likely to exhibit narcissistic behavior, such as frequently uploading selfies and seeking attention through "likes" and comments. External factors, such as the social and cultural environment of the university, also influence this behavior. A competitive environment and an emphasis on appearance encourage students to enhance their social status through social media. Further analysis of the influence of self-esteem on narcissistic behavior among Instagram-using students at Medan Area University yielded interesting findings. The correlation coefficient indicated a significant positive relationship between self-esteem and narcissistic tendencies. This means that the higher a person's self-esteem, the greater their narcissistic tendencies. Conversely, when self-esteem decreases, narcissistic tendencies also tend to decline. Although the strength of this relationship is weak, it still suggests a potential influence of self-esteem on narcissistic behavior.

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