

Adolescents Cyberbullying: Examining The Role of Social Media Use Intensity and Dark Triad Personality

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Abstract

Cyberbullying is a form of harassment carried out through electronic devices, often involving social media platforms. This study aimed to determine the role of social media use and dark triad personality in predicting adolescents' involvement in cyberbullying. The study involved 219 adolescents aged 12-21 who had engaged in cyberbullying within the past six months. Data were collected using three scales: the Social Media Use Integration Scale, Short Dark Triad, and Cyber-Aggression Scale. The results indicated that both intensity of social media use and dark triad personality traits simultaneously predicted cyberbullying behavior among adolescents, with psychopathy emerging as the most significant contributor to the observed behaviors. The study suggests that while social media use alone may not directly lead to cyberbullying, it serves as a facilitating platform for individuals with psychopathic tendencies. The study's findings highlight the importance of parents, counselors, and the community working together to prevent cyberbullying behaviors among adolescents.

Keywords: *cyberbullying, social media use intensity, dark triad personality, adolescents.*

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Introduction

Social media refers to the various digital platforms and tools accessible through internet connectivity, which facilitate the sharing of media, and the expression of opinions on diverse topics, and serve as a means of communication free from constraints of time and location (Gündüz, 2017). Furthermore, it offers convenience for its users to have conversations and share content with anyone, even strangers. With social media, all activities that used to be carried out

physically can be realized in digital forms, such as online chat, video calls, and others (Gündüz, 2017). Social media enables people to stay connected with friends and family across distances, sharing moments and updates effortlessly. It also broadens access to education and business opportunities, providing learning resources and platforms for networking and entrepreneurship. Social media raises awareness on important social and political issues, allowing movements to reach a global audience and mobilize support quickly. Additionally, it offers entertainment and stress relief through humorous content, videos, and challenges, which can provide a mental break in daily life (Jose, 2023).

The convenience afforded by social media platforms does not always yield positive outcomes since it can also engender detrimental effects, particularly among adolescents. Social media has amplified issues like cyberbullying, harmful speech, and hate, often targeting vulnerable groups with threats, intimidation, and doxing (Jose, 2023). Anonymity on platforms can embolden trolls, leading to coordinated attacks, while constant connectivity means victims can face harassment around the clock, with serious impacts on mental health. Social media also contributes to social isolation, as excessive online interaction can replace meaningful face-to-face connections and lead to loneliness and depression. Despite its benefits, over-reliance on social media affects both individual wellbeing and real-life relationships. One prevalent global phenomenon, frequently observed in Indonesia, involves cyberbullying, which manifests as a negative behavior perpetrated by anyone on various social networking platforms (Riswanto & Marsinun, 2020).

Every facet of contemporary endeavors is intricately intertwined with the internet or network infrastructure (Fukuyama, 2018). The swift advancement of technology engenders manifold transformations that permeate various strata of society. Therefore, there has been a shift in culture, ethics, and norms in people's behavior patterns due to the birth of social media (Cahyono, 2016). Social media can bring distant people closer and entertain the viewers of its content (Isnawan, 2021). This phenomenon has prompted content creators on platforms such as TikTok and YouTube to unleash their utmost creativity in crafting captivating content that appeals to their audience (Winangsih, Mulyasih & Martalena, 2021). Social media has become a part of every adolescent to shape their identity and personality (Herawati, Marta, Panggabean, & Wang,

2021) to go viral online (Permana & Yusmawati, 2019). One of the most popular contents among adolescents is prank content. Prank-oriented content is commonly enacted in real-life scenarios to garner a substantial number of views. Subsequently, creators proceed to upload such content on their respective social media platforms. This behavior led to cyberbullying.

Cyberbullying is defined as an intentional, aggressive, and repetitive behavior, where a person or group uses electronic devices (mainly the Internet and the smartphone) to bully a person who cannot defend him/herself (Buelga et al., 2019). Cyberbullying comprises a set of aggressive behavior online, including both direct and indirect cyber-aggressions. Direct cyber-aggressions involve targeted actions or attacks against someone, typically through verbal or social means. Indirect cyber-aggressions, on the other hand, include methods like manipulating content, stealing identities, or hacking (Buelga et al., 2020). Çetin et al. (2011) identified three distinct factors of cyberbullying, which are cyber verbal bullying, hiding identity, and cyber forgery. Rumra & Rahayu (2021) highlight that cyberbullying can significantly harm the emotional and psychological well-being.

The cyberbullying issue has received significant attention in different disciplines, including Psychology. The effect on victims varies greatly, from losing concentration in learning, excessive fear, and anxiety to withdrawing from their environment (Hana & Suwarti, 2019). A study by Microsoft (2021) in May 2020 on 503 internet users suggested that Indonesia is ranked as the first Most Disrespectful Country in the Asia Pacific. In addition, children aged 10 - 16 who access or share violent/cyberbullying content have a 50% higher risk of suicide (Sumner et al., 2021). Based on DigitalTrends.com data in 2020, there has been a 70% increase in cyberbullying/hate speech in children and adolescents since the lockdown due to the Covid-19 pandemic. Since March 2020, internet usage has reached 50 to 70%, giving people access to the negative side of social media, namely abuse such as harassment, cyberbullying, and fraudulent media to intimidate (Mitsu & Dawood, 2022).

The phenomenon continues to be rampant and increasing because the perpetrators can hide their identities and act at any time (Abaido, 2020). Furthermore, it is easy and cost-effective to

torment the victims. With just a few clicks, perpetrators can potentially hurt the feelings of many people through demeaning posts (Lyons, 2019). Van Geel et al. (2017) also found that perpetrators have different motivations from traditional bullying. Cyberbullies usually act aimlessly and are difficult for victims to see, while offline bullying aims to manipulate and gain power over victims. Therefore, the victims can only remain silent, not daring to resist and withstand the pressure exerted. This is the main difference between bullying in the real world and cyberbullying.

Cyberbullying can occur regardless of age, gender, social status, and others (Elpemi & Faqih Isro'i, 2020). In a survey conducted by Microsoft in 2021, 54% of millennials were bullied, followed by Gen Z at 47%, Gen X at 39%, and boomers with a total percentage of 18%. In terms of gender, males have a higher tendency to commit cyberbullying than females (Wang, Wang, & Lei, 2019). However, this does not hold across different countries, schools, and measurement tools. Culture and understanding of cyberbullying also affect the gender differences in committing the act. The process can be perpetrated without worry or fear because the perpetrator is not directly face-to-face with the victim or intended person. They have the perception that posts on social media, such as Instagram, Facebook, and others, can still be deleted. Individuals often fail to acknowledge the enduring presence of their digital footprints across various social media platforms. Additionally, other consequential occurrences tend to elude their consideration. For instance, the act of sharing or forwarding social media posts, observed by others, can lead to unforeseen ramifications (Rahman, 2019). This can have a bad effect on the perpetrator and victim who gets cyberbullying.

A significant number of cyberbullying perpetrators are adolescents. Their action conducted by an individual or group through sending text messages, photos, memes, or videos to someone's social media account, intending to insult, humiliate, harass, discriminate against, or even harm the targeted individual (Riswanto & Marsinun, 2020). This occurrence can be attributed to the fact that a considerable portion of internet users consists of adolescents, making them more inclined to engage in bullying behaviors on social media platforms. Despite being perpetrators, adolescents themselves are also highly susceptible to digital bullying due to the accessibility of electronic devices, which facilitates cyberbullying (Jalal & Idris, 2021). Furthermore, the anonymity offered by

social media platforms makes it easier to evade consequences, as their identities are challenging to ascertain (Hinduja & Patchin, 2019). Adolescence, characterized by biological, cognitive, and socio-emotional changes, represents a transitional period from childhood to adulthood (Santrock, 2019). This stage spans from around 10 to 13 years of age and extends until approximately 18 to 22 years. During adolescence, individuals often grapple with an identity crisis, making them more prone to various issues, including bullying (Sistrany, 2016). The risks in children and adolescents escalate with increased internet usage. Unresolved grievances and conflicts contribute to the propensity of adolescents to engage in cyberbullying behaviors (Pandie & Weismann, 2016).

The common forms of adolescents cyberbullying include mocking individuals who are disliked, causing annoyance, using someone as the subject of ridicule for revenge, and spreading negative information about a person to humiliate them (Rumra & Rahayu, 2021). The motivation why adolescents commit acts to cyberbullying are: dislike of a person or person, intending to insinuate with negative sentences that are less ethical and rude, aiming to entertain so that users or internet users can laugh, feelings of envy and resentment that afflict adolescents, and feeling that they are better and more qualified than others so that they think that cyberbullying is a natural thing (Riswanto & Marsinun, 2020).

Data from several studies showed that most adolescents have committed cyberbullying in the high category. A study by Wiryada, Martiarini, and Budiningsih (2017) reported cyberbullying levels at SHS 1 and 2 Ungaran Semarang. The results at SHS 1 Ungaran showed that about 72% of the 286 respondents, as well as 45 and 35 children, had committed the act in the high, medium, and low categories. Furthermore, the results at SHS 2 Ungaran showed that 235 children (70%) had committed cyberbullying in the high category. A study conducted on 1452 high school students in Aceh, Jakarta, Medan, Yogyakarta, Papua, and Makassar showed that cyberbullying rate was in a fairly high category, at 69.64% (Efianingrum, Dwiningrum, & Nurhayati, 2021). Therefore, it can be concluded that cyberbullying committed by adolescents through social media is in the high category.

CfDS Digitimes in 2021 also described several cases of cyberbullying in Indonesia (Asriani et al., 2021). The study was conducted on adolescents aged 13 - 18 studying in junior high and high schools. In line with Rumra and Rahayu's study (2021), social media used include Whatsapp, Instagram, and Facebook. The results showed that 38.41% claimed to be perpetrators of cyberbullying, while 45.35% were victims. The forms of cyberbullying that are mostly carried out are spreading gossip and rumors and isolating others from online groups. In addition, this study showed differences in cyberbullying between males and females. Males tend to harass and ostracize, while females tend to defame. Interestingly, males who are victims tend to become perpetrators in the future, while females do not. This is in line with a study conducted by Zhong et al., (2021) that there are differences in cyberbullying carried out in terms of gender.

One of the factors that might contribute to cyberbullying acts is personality. The influence of personality on adolescents' propensity to engage in cyberbullying has been well-established (Zhong et al., 2021). For instance, factors such as a lack of empathy, aggression, and selfishness have been identified as significant predictors (Adiyanti et al., 2019). Goodboy and Martin's (2015) further supported these findings, highlighting that individual with dark triad personality, particularly those exhibiting psychopathy traits, are more likely to exhibit the behaviors, a pattern corroborated by Gibb and Devereux (2014) who found that those scoring high in psychopathy are likely to engage in cyberbullying. Moreover, Garcia and Sikström (2014) revealed that individuals exhibiting psychopathy and narcissism display negative social behaviors, such as deceit and aggression, even in their online interactions on Facebook.

These traits are associated with the Dark Triad personality, as they encompass the very characteristics that drive harmful and manipulative actions online. The Dark Triad, as defined by Paulhus and Williams (2002), encompasses three interrelated personality traits: narcissism, characterized by entitlement and self-importance; psychopathy, marked by a lack of empathy and impulsive behavior; and Machiavellianism, involving manipulative tendencies and a cynical worldview. Pailing, Boon, and Egan (2014) asserted that individuals with combined traits of psychopathy and machiavellianism are prone to engaging in violent behavior. The term "dark triad personality" refers to individuals exhibiting negative behavior patterns characterized by

machiavellianism, narcissism, and psychopathy (Paulhus & Williams, 2002). People with Machiavellian traits are "masters" of manipulation, possessing an inherent ability to deceive and act duplicitously without needing to learn it (Morton & Metzger, 2020). They are often seen as calculating, untrustworthy, and amoral, using others as stepping stones to achieve personal goals. People with narcissism tend to crave excessive attention, praise, and admiration to compensate for low self-esteem. They desire to be the center of attention, expect special treatment, but often show little empathy for others (Morton & Metzger, 2020). Psychopaths are characterized by a lack of empathy and indifference toward others' emotional states (Morton & Metzger, 2020). Key traits include pathological lying, manipulative behaviour, grandiosity, impulsivity, irresponsibility, and harmful actions toward others.

The internet, especially social media, is safe for people with dark triad personalities to obtain "prey" (Morton & Metzger, 2020). The users looking for victims are called trolls, who disrupt conversations by lying, exaggerating, and making negative comments on social media to provoke emotions and commotion from others. Following Morton and Metzger's (2020) study, the realm of cyberspace inhabited by individuals with dark triad personality is rife with fraudulent activities, deviant behavior, and criminal acts on social media platforms. The persistence of cyberbullying presents a significant challenge as perpetrators continually seek new methods to torment their victims, potentially leading to severe consequences such as suicide (Lyons, 2019). Findings from a study involving 324 high school students aged 14 to 18 years, conducted by Pabian, De Backer, and Vandebosch (2015), demonstrated a correlation between an individual's intense use of Facebook, high scores in dark triad personality traits, particularly psychopathy, and an increased likelihood of engaging in cyberbullying behavior. These findings align with the study by Goodboy and Martin (2015), which indicates a positive association between adults with dark triad personality and visually-oriented cyberbullying tactics, such as sharing embarrassing photos, as well as text-based methods, including posting negative comments on social media posts.

Besides personality factors, several studies have shown a relationship between the intensity of using social media and the tendency of cyberbullying behavior. Fitriyanti and Waliyanti (2018) showed that intensity affects this behavior. These results were obtained through interviews with

students using Instagram two to more than seven times a day. Informants committed cyberbullying because they had been humiliated in the past. This is in line with Gibson's (2015) study where adolescents who exceed the frequency limit of using social media would tend to commit cyberbullying. Kowalski et al. (2014) explained that adolescents who have been victims can be at risk of becoming perpetrators on social media. Furthermore, Craig et al. (2020) and Kao (2021) also showed that the longer adolescents spend on social media, the more likely they are to commit cyberbullying. On average, adolescents spend 7 hours online, and the longest duration is more than 12 hours/day.

Many studies have stated that there is a relationship between intensity of social media use and the tendency to commit cyberbullying. However, previous studies have not tested the two variables against the act simultaneously. The ecological theory proposed by Urie Bronfenbrenner states that human development is the result of interactions between individuals and their environment. (Tong & An, 2024). Bronfenbrenner and Morris (2006) mentioned that individual characteristics, context, and time influence the form, intensity, and direction of proximal processes, which collectively and interdependently affect developmental outcomes. Individual development is seen as the result of dynamic interactions between the individual and other people, objects, and symbols within their immediate environment. Navarro et al. (2022) mentioned that proximal processes play a direct role in shaping developmental outcomes. Therefore, there is a reciprocal relationship between humans who grow with the changes in the environment. However, it is essential to consider that humans continue to evolve and engage in interactions beyond their immediate surroundings, encompassing external factors and individuals beyond their selves. The term "environment" consists of diverse strata, including microsystems, mesosystems, macrosystems, and exosystems. Furthermore, Kurt Lewin posited that an individual's behavior arises as a consequence of the interplay between humans and the environment (Burnes, 2020). Given this theoretical elucidation, this study exhibits a vested interest in exploring the role of dark triad personality as an external element influencing the propensity for engaging in cyberbullying. Therefore, the study postulated that individuals with inclinations towards dark triad personality traits and a high degree of social media usage are more likely to manifest a proclivity for cyberbullying. It ascertains the existence of a correlation between the social media usage



intensity, dark triad personality traits, and cyberbullying among adolescents.

Method

Participants

The population of this research comprised adolescents aged 12 – 21 in Surabaya who used social media and had engaged in cyberbullying in the past of six month. The characteristic of being a perpetrator of cyberbullying was determined through an initial screening questionnaire. The sample consisted of 219 adolescents, with 62.1% female and 37.9% male, selected from a private school in Surabaya. Data were gathered using a convenience sampling method (Neuman, 2014).

Informed consent for participation in the study was obtained from both the school and the adolescents' parents or guardians. Additionally, participants provided their assent, which confirmed their willingness to join the study. Participants then completed a questionnaire that included a consent statement, questions about personal information, and scales related to the study.

Measuring Instrument

This study used instruments in the form of demographic data, open-ended questionnaires, and psychological scales. The study scales were translated from English to Indonesian and checked for content and translation accuracy by bilingual panelists. The instrument panelists consisted of academicians proficient in both Indonesian and English, ensuring accurate evaluation and feedback on the research materials. All panelists provided minor feedback, primarily suggesting revisions to simplify scientific terms into language that is more accessible to the public, while maintaining the core conceptual meaning. Before the instruments used, there are validity and reliability test for each of the instrument. The validity test used is content validity by reviewing the CVR Index score, while the reliability test uses internal consistencies. Results from the three panelists show a CVR Index score of 0.99 for each scale.

The Social Media Use Integration Scale (SMUIS; Jenkins-Guarnieri et al., 2013), consisting of ten items, was used to assess the intensity of social media use, including the extent to which individuals were emotionally connected to social media, and how well the platform was integrated

into daily lives. The SMUIS was designed to measure integration and emotional connection with social media. Example of items were: "I feel disconnected from friends when I have not logged into social media" (social media and emotional connection) and "I enjoy checking my social media account" (integration in social routines). Items were summed to measure intensity of using social media (Cronbach's = 0.914). There were six alternative answer choices with a Likert scale of 1 = Strongly Disagree (SD) to 6 = Strongly Agree (SA). The value obtained was directly proportional to the adolescents' social media use intensity. The reliability test indicate that the Social Media Use Integration Scale (SMUIS) is reliable with a Cronbach's Alpha score of 0.847.

The Short Dark Triad (SD3; Jones & Paulhus, 2013) was used to assess dark triad personality, which consisted of narcissism, machiavellianism, and psychopathy. The 27-item questionnaire was originally designed by Jones and Paulhus (2013), who created nine items representing each dimension. Examples of items were: "Make sure your plans benefit yourself, not others (machiavellianism)"; "I am likened to famous people (narcissism)"; and "People who annoy me always regret it (psychopathy)." Items were summed separately for each type of Dark Triad (Cronbach's = 0.76). There were six alternative answer choices using a Likert scale of 1 = Strongly Disagree (SD) to 6 = Strongly Agree (SA). The score obtained was directly proportional to the person's dark triad personality. The reliability test indicate that the Short Dark Triad-3 (SD-3) measurement has acceptable reliability scores of 0.740 for Machiavellianism, 0.690 for Narcissism, and 0.624 for Psychopathy.

Cyber-Aggression Scale (CYB-AGS; Buelga et al., 2020) consisted of 18 items used to measure cyberbullying behavior. This scale was divided into two dimensions, namely direct cyber-aggression (DCB) and indirect cyber-aggression (ICB). The CYB-AGS scale is highly suitable for measuring cyberbullying as it captures a wide range of behaviors, including both direct and indirect cyber-aggressions, making it more comprehensive than many other tools (Buelga et al., 2020). An example item of DCB was "I have called someone's phone and then hung up on them to annoy or frighten them," while an example item of ICB was "I have changed someone's password to social network hence they cannot access it". There were five alternative answer choices using a Likert scale 1 = Never, 2 = 1 to 2 times, 3 = 3 to 5 times, 4 = Six to 10 times, and

5 = More than 10 times. In addition, items were summed to measure the level of cyberbullying. The value obtained was directly proportional to the tendency of adolescents to commit cyberbullying. The reliability test indicate that Cyber-Aggression Scale strongly reliable, with Cronbach's Alpha score of 0.930

Data Analysis

The data analysis technique used was the multiple regression analysis test to predict the effect of four predictor variables which are social media use intensity, dark-triad narcissism, dark-triad Machiavellianism, and dark-triad psychopathy on cyberbullying. The assumption test used are normality, linearity, multicollinearity, and heteroscedasticity. The regression analysis test provided information about the percentage contribution of the predictor variable to the criterion through the R square (R^2) value. The regression analysis test was seen when $p < 0.05$, then the null hypothesis was rejected, and the alternative was accepted. Meanwhile, when $p > 0.05$, the null hypothesis was accepted, and the alternative hypothesis was rejected.

Result

The demographic data of the participants are presented in [Table 1](#). Most participants were female, totaling 136 people (62.1%). Meanwhile, male participants totaled 83 people (37.9%). The highest number of participants with a high school education level was 103 people (47.0%). However, when viewed in terms of developmental stages, most participants were in the middle adolescence stage, with a total of 93 (42.5%). Most participants' daily duration of playing social media was at a moderate level, with 147 people (67.1%), while the weekly duration was at a severe level of 43.4% (95 people).

Table 1
Participant's characteristic

Demographic Profile	Description	Frequency (N=219)	Percentage (%)
Gender	Male	83	62,1
	Female	136	37,9
Current Education	Junior High School	61	27,9
	Senior High School	103	47,0
	University Student	55	25,1
Stage of Development	Early Adolescence (12-15 years)	76	34,7
	Middle Adolescence (16-18 years)	93	42,5
	Late Adolescence (19-21 years)	50	22,8
Daily Duration of Social Media Use	Mild (<3 hours/day)	57	26,0
	Moderate (4-10 hours/day)	147	67,1
	Severe (>10 hours/day)	15	6,8
Weekly Duration of Social Media Use	Mild (<10 hours/week)	41	18,7
	Moderate (11-20 hours/week)	83	37,9
	Severe (> 20 hours/week)	95	43,4

Tables 2 shows a more detailed categorization of participants' scores from the five variables. Intensity of social media use was mostly at a moderate level (84 people, 38.4%). In addition, dark triad Machiavellianism level was moderate (74, 33.8%) to low (67, 30.6%). The level of dark triad narcissism was mostly moderate (89, 40.6%) and the level of dark triad psychopathy was mostly moderate (79, 36.1%). Cyberbullying pattern of participants was at a low (88, 40.2%) to moderate level (92, 42%).

Table 2
Score Categorization

Variable	Category	Frequency	Percentage (%)
Intensity of Social Media Use	Very High (>54)	12	5,5
	High (46-54)	52	23,7
	Moderate (38-45)	84	38,4
	Low (29-37)	54	24,7
	Very Low (<29)	17	7,8
Dark-triad Machiavellianism	Very High (>44)	16	7.3
	High (38-44)	48	21.9
	Moderate (30-37)	74	33.8
	Low (23-29)	67	30.6
	Very Low (<23)	14	6.4
Dark-triad Narcissism	Very High (>38)	13	5.9
	High (31-38)	41	18.7
	Moderate (24-30)	89	40.6
	Low (17-23)	59	26.9
	Very Low (<17)	17	7.8
Dark-triad Psychopathy	Very High (>35)	12	5.5
	High (28-35)	52	23.7
	Moderate (22-27)	79	36.1
	Low (16-21)	59	26.9
	Very Low (<16)	17	7.8
Cyberbullying Behavior	Very High (>42.5)	17	7.8
	High (31.5-42.5)	22	10.0
	Moderate (20.5-31.4)	92	42.0
	Low (9.5-20.4)	88	40.2
	Very Low (<9.5)	0	0.0

Before the regression test was carried out, several assumption tests were carried out, consisting of normality, linearity, multicollinearity, and heteroscedasticity tests. The result of normality tests states that only the dark triad psychopathy variable is normally distributed ($p = 0.200$, $p > 0.05$), while the other variables are not normal. Linearity tests performed indicated that only the linear correlation between intensity of social media use and cyberbullying does not have a linear correlation relationship ($p = 0.309$, $p > 0.05$), while the other variables are linearly correlated. There is no multicollinearity and heteroscedasticity between the variables studied.

Based on [Table 3](#), the intensity of social media use and dark triad personality simultaneously can predict cyberbullying ($R^2 = 0.239$, $F = 16.790$, $p = 0.000$, $p < 0.05$). The value of the coefficient of determination indicating that the intensity of social media use and dark triad personality contribute 23.9% of adolescents cyberbullying. From the results of the hypothesis test above, it can be concluded that the alternative hypothesis is accepted, indicating a significant relationship between the intensity of social media use and dark triad personality traits with cyberbullying among adolescents.

Table 3
Multiple Regression Analysis Test of Social Media Use Intensity and Dark Triad Personality

Predictor	R ²	F	p	Coefficient ^a		
				β	Zero Order	p
Social Media Use Intensity	0.239	16.790	0.000	0.034	0.069	0.579
Dark-Triad Machiavellianism				0.076	0.271	0.264
Dark-Triad Narcissism				0.101	0.302	0.140
Dark-Triad Psychopathy				0.395	0.470	0.000

Discussion

The study aimed to determine the relationship between intensity of using social media and dark triad personality, consisting of three types, namely machiavellianism, narcissism, and psychopathy, with cyberbullying in adolescents. The results of multiple regression analysis showed that the intensity of social media use and dark triad personality simultaneously can predict cyberbullying ($R^2 = 0.239$, $F = 16.790$, $p = 0.000$, $p < 0.05$). The study reveals that the combination of social media use and each personality traits significantly influences cyberbullying behavior, highlighting the interplay between these factors. The higher R^2 value indicates a strong relationship between these variables and cyberbullying, implying that personality and social media behavior may play crucial roles in predicting aggressive online interactions. The combination of personality traits associated with manipulation, egocentricity, and lack of empathy appears to be particularly influential in digital contexts where boundaries are often less defined. Among the dark triad personality traits, only psychopathy emerges as a significant predictor of cyberbullying behavior. However, partially analysis suggests that social media usage alone may not directly lead to cyberbullying, it acts as a

facilitating platform for individuals with psychopathic tendencies to engage in aggressive online behaviors.

Safaria et al. (2020) stated that dark triad personality was one of the predictors of adolescents committing cyberbullying. Therefore, when adolescents use the platforms intensely and have dark triad machiavellianism personality, they will be more likely to commit cyberbullying. People with high machiavellianism tend to be manipulative, even towards their close friends, to achieve their goals (Czibor et al., 2017). With high social media usage, these adolescents tend to fear social rejection. Therefore, they prefer to communicate online for the manipulation process to be easier (Rauthmann, 2011). This was in line with a study conducted by Kircaburun, Jonason, and Griffiths (2018), where the use of social media and the level of machiavellianism is directly proportional to the tendency of cyberbullying behavior. This occurred because people with this type of dark triad easily ignore moral values and do not regret mistakes.

A propensity for cyberbullying emerges when adolescent's social media usage is coupled with dark triad narcissism (Ackerman et al., 2011). Individuals with elevated levels of narcissism seek to capture the attention of numerous individuals through social media platforms. This is driven by a desire to be the focal point of attention and amass a multitude of online connections without fostering reciprocal relationships. Carpenter (2012) conducted a study that highlighted how individuals exhibiting narcissistic traits seek social validation and admiration on Facebook, rendering them susceptible to engaging in verbal aggression towards negative opinions on social media posts. Further insight from Gibb and Devereux (2014) suggested that those who engage in cyberbullying exhibited characteristics associated with dark triad, particularly psychopathy. Individuals showing psychopathy traits demonstrate a distinct lack of empathy and disregard for the circumstances of others. Meanwhile, psychopathy exhibits a stronger correlation with bullying compared to machiavellianism and narcissism within dark triad (Gul & Fatima, 2016). Individuals with dark triad personality traits are inclined to participate in cyberbullying due to elevated levels of aggression, impulsivity, and irresponsibility. The findings indicated that the combined effects of intense social media usage and dark triad psychopathy predicted cyberbullying. Furthermore, those with heightened tendencies tend to exhibit antisocial behavior, characterized by uncontrollable

actions (Aboujaoude et al., 2015). Safaria et al. (2020) supported these findings, stating that individuals with elevated levels are more likely to engage in cyberbullying. This propensity can be attributed to their inherent lack of guilt or remorse for detrimental actions towards others, coupled with a fundamental absence of empathy.

Intensity of social media in some studies also affects cyberbullying behavior in adolescents. Jiang et al. (2018) showed that adolescents tend to be exposed to online aggression behavior, due to the intense use of social media. Repeated exposure to online aggressiveness can make adolescents cyberbullying behavior more acceptable because it is seen as modeling and reinforcement (Alt & Boniel-Nissim, 2018). One form of positive reinforcement is increasing adolescents' social status. This motivates them to engage in online aggressiveness as a form of social acceptance. In addition, increased exposure of adolescents to cyberbullying behavior through social media can lead to a disinhibition effect (Barlett & Gentile, 2012). The disinhibition effect is the behavior shown by someone online that often triggers aggressive behavior, including cyberbullying, due to anonymity (Satriawan, 2016). This effect triggers adolescents to be more intense to normalize the behavior (Craig et al., 2020). However, based on these findings, the results show no relationship between the social media intensity and cyberbullying in adolescents. This is in line with research conducted on 389 students in Sulawesi which stated that reveal that intensity of using social media accessed by Generation Z do not significantly influence cyberbullying (Umar et al., 2024). This is because social media are not solely used for cyberbullying but also aim to provide information and promote self-branding. In addition, research conducted by Manurung et al. (2022) also stated that there is no relationship between social media and cyberbullying behavior in adolescents. This is because there is psychological control such as good emotional control and social media has many positive impacts on adolescents.

This study showed that among the three types of dark triad personality, psychopathy emerged as the most significant predictor of adolescents engaging in cyberbullying, accounting for 22% of the cases. These findings were consistent with the study conducted by Pabian, De Backer, and Vandebosch (2015), where higher utilization of social media combined with a higher dark triad personality score, particularly concerning psychopathy, increases the likelihood of individuals

engaging in cyberbullying behavior. This was also supported by Goodboy and Martin (2015), where psychopathy served as the foremost predictor of the behavior. Jones and Paulhus (2013) discovered that individuals with a strong inclination towards dark triad personality tend towards aggressive behavior. Moreover, psychopathy individuals may engage in acts of aggression even without being provoked or influenced by the conduct of others. It is important to recognize that the motivations underlying cyberbullying behavior vary among individuals with different dark triad personality types. Individuals exhibiting Machiavellianism tend to resort to the behavior to acquire or attain something, while those with narcissism are inclined to employ it as a tool for seeking revenge to restore their reputation or salvage self-esteem. Conversely, individuals with psychopathy tend to engage in cyberbullying without any specific reason (Goodboy & Martin, 2015).

The participants demonstrated a moderate level of social media usage. Undoubtedly, social media has become an integral part of daily life for adolescents, providing them with access to various entertainment content (Herawati, Marta, Panggabean, & Wang, 2021). The convenience offered allows users of all age groups, from toddlers to the elderly, to incorporate it into their daily activities. However, this convenience also carries negative consequences since some individuals misuse social media to engage in harmful behaviors. A study conducted by Craig et al. (2020) showed that adolescents who spend more time on social media tend to be more inclined toward cyberbullying. This finding is supported by a survey conducted by Kao (2021), where the duration of social media usage directly correlates with the tendency to engage in cyberbullying, with an average duration of 7 hours per day. The results indicate that out of 219 participants, 64 (29.2%) reported spending 6 to 10 hours using social media, while 15 (6.8%) reported using it for more than 10 hours daily.

The level of cyberbullying by participants is mostly in the moderate to low category. A person commits cyberbullying by misusing social media to commit harassment, fraud, and intimidation (Mitsu & Dawood, 2022). With few clicks, individuals can easily partake in behaviors that are detrimental to others, including cyberbullying. Anonymity or the ability to remain unseen by the victim is among the factors contributing to the occurrence (Van Geel et al., 2017). This finding

aligns with the results of the present study, where a substantial majority of participants, specifically 74.4% (163 individuals), possess social media accounts under pseudonyms. The rationale behind utilizing such accounts is to conceal their true identity, avoiding detection by others. In this study, gender has an association with adolescents cyberbullying behavior. Furthermore, there is a difference in the level of cyberbullying in terms of gender ($t = 4.759$, $p = 0.000$, $p < 0.05$). Cyberbullying committed by males ($N=83$, $Mean=30.02$) was higher than by females ($N=136$, $Mean=23.35$). This is in line with a study conducted by Sun et al. (2016), where males are more likely to commit cyberbullying than females from Asian and North American countries. This may occur because males tend to access aggressive thoughts and associate their self-concept with aggressiveness (Im et al., 2018). In addition, Zhu et al. (2016) stated that the gender has stronger and more unstable personality than females. This causes males to be more likely to have conflicts with others, which leads to cyberbullying.

There are differences in the level of cyberbullying behavior in terms of education level. In this study, most respondents were at the high school students aged over 15. This findings aligns with Álvarez-García and Núñez (2018), who found that older adolescents, particularly those over 15 years old, are at greater risk of engaging in cyberbullying. This may be because age determines adolescents' use of social media. Older adolescents are more impulsive, less empathetic, and more likely to engage in aggressive behavior, including cyberbullying. Buelga et al. (2015) stated that most adolescents cannot be monitored by their parents when using social media. This triggers high social media use and exposure to negative things online. Interestingly, despite this, junior high school respondents in this study reported the highest average level of cyberbullying behavior, with a mean score of 28.51.

This study has several limitations. First, the instrument used to measure dark triad personality, the Short Dark Triad (SD-3), is a self-report measure. This may lead to bias, as respondents, particularly adolescents, might present themselves in a more positive light, potentially affecting the accuracy in reflecting adolescent personalities. Second, the sampling technique used is convenience sampling, this led to an uneven distribution of participants across early, middle, and late adolescent stages in Surabaya, meaning the results may not represent each adolescent age group equally.



Conclusion

In conclusion, this study highlights a significant relationship between the intensity of social media use, dark triad personality traits, and cyberbullying among adolescents. The combined influence of social media intensity and dark triad personality traits on cyberbullying behavior demonstrates substantial predictive power. Among the dark triad traits, psychopathy emerged as the strongest predictor, suggesting that characteristics such as impulsivity, callousness, and lack of empathy are particularly associated with online aggression. Additionally, the findings reveal significant gender differences, with males exhibiting higher levels of cyberbullying compared to females. The study also indicates that younger adolescents are the most active group in cyberbullying, emphasizing the importance of targeting this critical period for intervention.

The theoretical implications underscore the necessity of integrating dark triad traits into cyberbullying models, emphasizing the role of personality and the usage of social media in driving online aggression, particularly in digital environments. Moreover, the observed gender and age differences suggest that developmental factors must be considered to fully understand the nature of cyberbullying. These insights provide a solid foundation for designing targeted interventions aimed at mitigating cyberbullying among adolescents.

Future research should address the limitations of this study by incorporating multi-method approaches, such as peer reports or behavioral assessments, to reduce the biases inherent in self-reported measures. Additionally, employing stratified random sampling could ensure a more representative distribution of participants across adolescent developmental stages. Longitudinal studies are recommended to track changes in the relationship between dark triad traits, social media use, and cyberbullying over time. Future studies could also explore moderating and mediating factors to better understand the proximal processes that drive cyberbullying behaviors.

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Author Contribution Statement

The author was responsible for proposing the research idea and design, designing the study, creating the module, writing the initial draft of the publication manuscript, coordinating the research implementation, and revising the publication manuscript. The academic advisor assisted in developing the research idea, guided the module creation, guided the drafting of the publication manuscript, and coordinated the research implementation.

Conflict of Interest

The researchers declare that this paper has no conflicts of interest.

Data Availability

Data can be provided upon request to the author.

Declarations Ethical Statement

The study followed the guidelines of the Declaration of Helsinki.

Informed Consent Statement

Informed consent was obtained from all persons involved in the study.

References

- Abaido, G. (2020). Cyberbullying on social media platforms among university students in the United Arab Emirates. *International Journal of Adolescence and Youth*, 25, 407–420. doi : [10.1080/02673843.2019.1669059](https://doi.org/10.1080/02673843.2019.1669059)
- Aboujaoude, E., Savage, M. W., Starcevic, V., & Salame, W. O. (2015). Cyberbullying: Review of an old problem gone viral. *The Journal of adolescent health : official publication of the Society for Adolescent Medicine*, 57(1), 10–18. doi : [10.1016/j.jadohealth.2015.04.011](https://doi.org/10.1016/j.jadohealth.2015.04.011)
- Ackerman, R. A., Witt, E. A., Donnellan, M. B., Trzesniewski, K. H., Robins, R. W., & Kashy, D. A. (2011). What does the narcissistic personality inventory really measure?. *Assessment*, 18(1), 67–87. doi : [10.1177/1073191110382845](https://doi.org/10.1177/1073191110382845)
- Adiyanti, M. G., Nugraheni, A. A., Yuliantanti, R., Ragasukmasuci, L. B., & Maharani, M. (2019). Emotion regulation and empathy as mediators of self-esteem and friendship quality in predicting cyberbullying tendency in Javanese-Indonesian adolescents. *International Journal of Adolescence and Youth*, 25(1), 251–263. doi : [10.1080/02673843.2019.1614079](https://doi.org/10.1080/02673843.2019.1614079)
- Alt, D., & Boniel-Nissim, M. (2018). Parent–adolescent communication and problematic Internet use: The mediating role of fear of missing out (fomo). *Journal of Family Issues*, 39(13), 3391–3409. doi : [10.1177/0192513X18783493](https://doi.org/10.1177/0192513X18783493)
- Álvarez-García, D., Núñez, J. C., García, T., & Barreiro-Collazo, A. (2018). Individual, family, and community predictors of cyber-aggression among adolescents. *The European Journal of Psychology Applied to Legal Context*, 10(2), 79–88. doi : [10.5093/ejpalc2018a8](https://doi.org/10.5093/ejpalc2018a8)
- Asriani, M., & Colleagues. (2021). Teenager-related cyberbullying case in indonesia. *Unpublished manuscript*.
- Barlett, C. P., & Gentile, D. A. (2012). Attacking others online: The formation of cyberbullying in late adolescence. *Psychology of Popular Media Culture*, 1(2), 123–135. doi : [10.1037/a0028113](https://doi.org/10.1037/a0028113)

- Buelga, S., Cava, M. J., Musitu, G., & Torralba, E. (2015). Cyberbullying aggressors among spanish secondary education students: An exploratory study. *Interactive Technology and Smart Education, 12*(2), 100–115. doi : [10.1108/ITSE-08-2014-0025](https://doi.org/10.1108/ITSE-08-2014-0025)
- Buelga, S., Martínez-Ferrer, B., Cava, M. J., & Ortega-Barón, J. (2019). Psychometric properties of the cybvics cyber-victimization scale and its relationship with psychosocial variables. *Social Sciences, 8*(1), 13. doi : [10.3390/socsci8010013](https://doi.org/10.3390/socsci8010013)
- Buelga, S., Postigo, J., Martínez-Ferrer, B., Cava, M. J., & Ortega-Barón, J. (2020). Cyberbullying among adolescents: Psychometric properties of the cyb-ags cyber-aggressor scale. *International Journal of Environmental Research and Public Health, 17*(9), 3090. doi : [10.3390/ijerph17093090](https://doi.org/10.3390/ijerph17093090)
- Bronfenbrenner, U., & Morris, P. A. (2006). The bioecological model of human development. In R. M. Lerner & W. Damon (Eds.), *Handbook of child psychology: Theoretical models of human development* (pp. 793–828). John Wiley & Sons, Inc. doi : [10.1002/9780470147658.chpsy0114](https://doi.org/10.1002/9780470147658.chpsy0114)
- Burnes, B. (2020). The origins of lewin's three-step model of change. *The Journal of Applied Behavioral Science, 56*(1), 32–59. doi : [10.1177/0021886319892685](https://doi.org/10.1177/0021886319892685)
- Cahyono, A. S. (2016). Pengaruh media sosial terhadap perubahan sosial masyarakat di Indonesia. *Jurnal Elektronik Universitas Tulungagung, 9*(1), 140–157.
- Carpenter, C. J. (2012). Narcissism on facebook: Self-promotional and anti-social behavior. *Personality and Individual Differences, 52*(4), 482–486. doi : [10.1016/j.paid.2011.11.011](https://doi.org/10.1016/j.paid.2011.11.011)
- Çetin, B., Yaman, E., & Peker, A. (2011). Cyber victim and bullying scale: A study of validity and reliability. *Computers & Education, 57*(4), 2261–2271. doi : [10.1016/j.compedu.2011.06.014](https://doi.org/10.1016/j.compedu.2011.06.014)
- Craig, W. M., Boniel-Nissim, M., King, N., Walsh, D. S., Boer, M., Donnelly, P. D., Harel-Fisch, Y., Malinowska-Cieslik, M., de Matos, M. G., Cosma, A., Van den Ejinden, R., Vieno, A., Elgar, F. J., Molcho, M., Bjereld, Y., & Pickett, W. (2020). Social media use and cyber-bullying: A cross-national analysis of young people in 42 countries. *Journal of Adolescent Health, 66*(6), 100–108. doi : [10.1016/j.jadohealth.2020.03.006](https://doi.org/10.1016/j.jadohealth.2020.03.006)
- Czibor, A., Szabo, Z. P., Jones, D. N., Zsido, A. N., Paal, T., Szijjarto, L., Carre, J. R., & Bereczkei, T. (2017). Male and female face of machiavellianism: Opportunism or anxiety?. *Personality and Individual Differences, 117*, 221–229. doi : [10.1016/j.paid.2017.06.002](https://doi.org/10.1016/j.paid.2017.06.002)
- Elpemi, N., & Faqih Isro'i, N. (2020). Fenomena cyberbullying pada peserta didik. *Indonesian Journal of Counseling and Education, 1*(1), 1–5.
- Efianingrum, A., Dwiningrum, S. I. A., & Nurhayati, R. (2021). Cyberbullying pelajar sma di media sosial: Prevalensi dan rekomendasi. *Jurnal Pembangunan Pendidikan: Fondasi dan Aplikasi, 8*(2), 144–153. doi : [10.21831/jppfa.v8i2.38300](https://doi.org/10.21831/jppfa.v8i2.38300)
- Fitransyah, R. R., & Waliyanti, E. (2018). Perilaku cyberbullying dengan media instagram pada remaja di yogyakarta. *Indonesian Journal of Nursing Practices, 2*(1), 36–48. doi : [10.18196/ijnp.2177](https://doi.org/10.18196/ijnp.2177)

- Fukuyama, M. (2018). Society 5.0: Aiming for a new human-centered society. *Japan Spotlight*, 47–50. Retrieved from https://www.jef.or.jp/journal/pdf/220th_Special_Article_02.pdf
- Garcia, D., & Sikström, S. (2014). The dark side of facebook: Semantic representations of status updates predict the dark triad of personality. *Personality and Individual Differences*, 67, 92–96. doi : [10.1016/j.paid.2013.10.001](https://doi.org/10.1016/j.paid.2013.10.001)
- Gibb, Z. G., & Devereux, P. G. (2014). Who does that anyway? Predictors and personality correlates of cyberbullying in college. *Computers in Human Behavior*, 38, 8–16. doi : [10.1016/j.chb.2014.05.009](https://doi.org/10.1016/j.chb.2014.05.009)
- Gibson, J. (2015). Cyberbullying is on the rise. *Time Colonist*. <http://www.canada.com/life/Cyber+vullying+rise/2915031/story.html>
- Goodboy, A. K., & Martin, M. M. (2015). The personality profile of a cyberbully: Examining the dark triad. *Computers in Human Behavior*, 49, 1–4. doi : [10.1016/j.chb.2015.02.052](https://doi.org/10.1016/j.chb.2015.02.052)
- Gul, E. S., & Fatima, I. (2016). Dark triad personality traits as predictors of bullying and victimization in adolescents. *Journal of Behavioural Sciences*, 26(1), 51–65.
- Gündüz, U. (2017). The effect of social media on identity construction. *Mediterranean Journal of Social Sciences*, 8(5), 85–92. doi : [10.1515/mjss-2017-0026](https://doi.org/10.1515/mjss-2017-0026)
- Hana, D. R., & Suwarti. (2019). Dampak psikologis peserta didik yang menjadi korban cyber bullying. *PSISULA: Prosiding Berkala Psikologi*, 1(11), 20–28. doi : [10.30659/psisula.v1i0.7685](https://doi.org/10.30659/psisula.v1i0.7685)
- Herawati, M. R. F., Panggabean, H., & Wang, C. (2021). Social media and identity formation: Content analysis of the movie eighth grade. *Journal of Society and Media*, 5(2), 385–408. doi : [10.26740/jsm.v5n2.p385-408](https://doi.org/10.26740/jsm.v5n2.p385-408)
- Hinduja, S., & Patchin, J. W. (2019). *Cyberbullying: Identification, prevention, & response*. Cyberbullying Research Center.
- Im, S., Jin, G., Jeong, J., Yeom, J., Jekal, J., Lee, S. I., Cho, J. A., Lee, S., Lee, Y., Kim, D. H., Bae, M., Heo, J., Moon, C., & Lee, C. H. (2018). Gender differences in aggression-related responses on eeg and ecg. *Experimental Neurobiology*, 27(6), 526–538. doi : [10.5607/en.2018.27.6.526](https://doi.org/10.5607/en.2018.27.6.526)
- Isnawan, F. (2021). Konten prank sebagai krisis moral remaja di era milenial dalam pandangan psikologi hukum dan hukum Islam. *Jurnal Surya Kencana Satu: Dinamika Masalah Hukum dan Keadilan*, 12(1), 59–74. doi : [10.32493/jdmhkdmhk.v12i1.10207](https://doi.org/10.32493/jdmhkdmhk.v12i1.10207)
- Jalal, N. M., & Idris, M. (2021). Faktor-faktor cyberbullying pada remaja. *Jurnal Psikologi Indonesia*, 5(2), 146–154.
- Jenkins-Guarnieri, M. A., Wright, S. L., & Johnson, B. (2013). Development and validation of a social media use integration scale. *Psychology of Popular Media Culture*, 2(1), 38–50. doi : [10.1037/a0030277](https://doi.org/10.1037/a0030277)
- Jiang, tuQ., Huang, X., & Tao, R. (2018). Examining factors influencing internet addiction and adolescent risk behaviors among excessive internet users. *Health communication*, 33(12), 1434–1444. doi : [10.1080/10410236.2017.1358241](https://doi.org/10.1080/10410236.2017.1358241)
- Jones, D. N., & Paulhus, D. L. (2013). Introducing the short dark triad (sd3): A brief measure of

- dark personality traits. *Assessment*, 20(2), 144–157. doi : [10.1177/1073191113514105](https://doi.org/10.1177/1073191113514105)
- Jose, T. (2023). A study on positive and negative effects of social media on society. *Journal of Survey in Fisheries Sciences*, 10(1S), 7174–7184.
- Kao, K. (2021). Social media addiction linked to cyberbullying. *UGA Today*. <https://news.uga.edu/social-media-addiction-linked-to-cyberbullying/#:~:text=Teenagers%20who%20are%20addicted%20to,day%20was%20over%2012%20hours>
- Kircaburun, K., Jonason, P. K., & Griffiths, M. D. (2018). The dark tetrad traits and problematic social media use: The mediating role of cyberbullying and cyberstalking. *Personality and Individual Differences*, 135, 264–269. doi : [10.1016/j.paid.2018.07.034](https://doi.org/10.1016/j.paid.2018.07.034)
- Kowalski, R. M., Giumetti, G. W., Schroeder, A. N., & Lattanner, M. R. (2014). Bullying in the digital age: A critical review and meta-analysis of cyberbullying research among youth. *Psychological Bulletin*, 140(4), 1073–1137. doi : [10.1037/a0035618](https://doi.org/10.1037/a0035618)
- Lyons, M. (2019). *The dark triad of personality: Narcissism, machiavellianism, and psychopathy in everyday life*. Elsevier Science & Technology.
- Manurung, B., Lita, L., & Adila, D. R. (2022). Hubungan penggunaan media sosial: Aplikasi tiktok dengan cyberbullying pada remaja. *Jurnal Perawat Indonesia*, 6(2), 1012–1021. doi : [10.32584/jpi.v6i2.1163](https://doi.org/10.32584/jpi.v6i2.1163)
- Microsoft. (2021). *Digital civility index: Civility, safety & interaction online: Indonesia*.
- Mitsu, R., & Dawood, E. (2022). Cyberbullying: An overview. *Indonesian Journal of Global Health Research*, 4(1), 195–202. doi : [10.37287/ijghr.v4i1.927](https://doi.org/10.37287/ijghr.v4i1.927)
- Morton, N., & Metzger, H. (2020). *Manipulation: What people high in dark triad traits know about human psychology, how to analyze people, persuasion, and mind control*. Primasta.
- Navarro, J. L., Stephens, C., Rodrigues, B. C., Walker, I. A., Cook, O., O'Toole, L., Hayes, N., & Tudge, J. R. H. (2022). Bored of the rings: Methodological and analytic approaches to operationalizing bronfenbrenner's ppct model in research practice. *Journal of Family Theory & Review*, 14(2), 233–253. doi : [10.1111/jftr.12459](https://doi.org/10.1111/jftr.12459)
- Neuman, W. L. (2014). *Social research methods: Qualitative and quantitative approaches (7th ed.)*, Harlow: Pearson Education Limited.
- Pabian, S., De Backer, C. J. S., & Vandebosch, H. (2015). Dark triad personality traits and adolescent cyber-aggression. *Personality and Individual Differences*, 75, 41–46. doi : [10.1016/j.paid.2014.11.015](https://doi.org/10.1016/j.paid.2014.11.015)
- Pailing, A., Boon, J., & Egan, V. (2014). Personality, the dark triad and violence. *Personality and Individual Differences*, 67, 81–86. doi : [10.1016/j.paid.2013.11.018](https://doi.org/10.1016/j.paid.2013.11.018)
- Pandie, M. M., & Weismann, I. T. J. (2016). Pengaruh cyberbullying di media sosial terhadap perilaku reaktif sebagai pelaku maupun sebagai korban cyberbullying pada siswa kristen smp nasional makassar. *Jurnal Jaffray*, 14(1), 43–62. doi : [10.25278/jj.v14i1.188.43-62](https://doi.org/10.25278/jj.v14i1.188.43-62)
- Paulhus, D. L., & Williams, K. M. (2002). The dark triad of personality: Narcissism,

machiavellianism and psychopathy. *Journal of Research in Personality*, 36(6), 556–563. doi : [10.1016/S0092-6566\(02\)00505-6](https://doi.org/10.1016/S0092-6566(02)00505-6)

- Permana, R., & Yusmawati. (2019). Komodifikasi pesan dan viralitas informasi dengan metode "like, share, comment, and subscribe" pada youtube. *Media Bahasa, Sastra, dan Budaya Wahana*, 25(2), 1–6. doi: [10.33751/wahana.v25i2.1601](https://doi.org/10.33751/wahana.v25i2.1601)
- Rahman, M. A. (2019). Nilai, norma, dan keyakinan remaja dalam menyebarkan informasi sehari-hari di media sosial. *Jurnal Ilmu Perpustakaan dan Informasi*, 4(1), 68–83. doi : [10.30829/jipi.v4i1.4110](https://doi.org/10.30829/jipi.v4i1.4110)
- Rauthmann, J. F. (2011). Acquisitive or protective self-presentation of dark personalities? Associations among the dark triad and self-monitoring. *Personality and Individual Differences*, 51(4), 502–508. doi : [10.1016/j.paid.2011.05.008](https://doi.org/10.1016/j.paid.2011.05.008)
- Riswanto, D., & Marsinun, R. (2020). Perilaku cyberbullying remaja di media sosial. *Analitika*, 12(2), 98–111. doi : [10.31289/analitika.v12i2.3704](https://doi.org/10.31289/analitika.v12i2.3704)
- Rumra, N., & Rahayu, B. (2021). Perilaku cyberbullying pada remaja. *Jurnal Ilmiah Kesehatan Jiwa*, 3(1), 41–48.
- Safaria, T., Lubabin, F., Purwandari, E., Ratnaningsih, E. Z., Khairani, M., Saputra, N. E., Ipak, E., Esita, R. Z., Nazriani, D., Miftahuddin., & Mariyati, L. I. (2020). The role of dark triad personality on cyberbullying: Is it still a problem?. *International Journal of Scientific & Technology Research*, 9(2), 4256-4260.
- Santrock, J. W. (2019). *Life-span development 17th edition*. McGraw-Hill Education
- Satriawan, N. (2016). Hubungan antara konsep diri dengan toxic disinhibition online effect pada siswa smkn 8 surakarta. *Skripsi*. Universitas Sebelas Maret.
- Sistrany, F. (2016). Pengaruh bullying terhadap kecerdasan emosi pada siswa di smp negeri 2 Samarinda. *Skripsi*.
- Sumner, S. A., Ferguson, B., Bason, B., Dink, J., Yard, E., Hertz, M., Hilkert, B., Holland, K., Mercado-Crespo, M., Tang, C., & Jones, C. M. (2021). Association of online risk factors with subsequent youth suicide-related behaviors in the us. *JAMA Network Open*, 4(9). doi : [10.1001/jamanetworkopen.2021.25860](https://doi.org/10.1001/jamanetworkopen.2021.25860)
- Sun, S., Fan, X., & Du, J. (2016). Cyberbullying perpetration: A meta-analysis of gender differences. *International Journal of International Science*, 11, 61–81.
- Tong, P., & An, I. S. (2024). Review of studies applying bronfenbrenner's bioecological theory in international and intercultural education research. *Frontiers in Psychology*, 14, 1233925. doi : [10.3389/fpsyg.2023.1233925](https://doi.org/10.3389/fpsyg.2023.1233925)
- Umar, N. F., Pandang, A., Syahril, M. F., & Rafli, M. (2024). Examining the factor of social media activities and relationships of cyberbullying behaviour in generation z indonesia. *Bulletin of Counseling and Psychotherapy*, 6(1), 1–13. doi : [10.51214/00202406847000](https://doi.org/10.51214/00202406847000)
- van Geel M., Goemans A., Toprak F., Vedder P. (2017). Which personality traits are related to traditional bullying and cyberbullying? A study with the big five, dark triad and sadism.



Personality and Individual Differences, 106, 231–235. doi : [10.1016/j.paid.2016.10.063](https://doi.org/10.1016/j.paid.2016.10.063)

- Wang, P., Wang, X., & Lei, L. (2019). Gender differences between student – student relationship and cyberbullying perpetration : An evolutionary perspective. *Sage Journals*, 36(19-20). doi : [10.1177/0886260519865970](https://doi.org/10.1177/0886260519865970)
- Winangsih R., Mulyasih, R. & Martalena. (2021). Komunikasi empati dalam budaya prank di kalangan remaja. *Journal of Scientific Communication*, 3(2), 97-104. doi : [10.31506/jsc.v3i2.12832](https://doi.org/10.31506/jsc.v3i2.12832)
- Wiryada, O. A. B., Martiarini, N., Budiningsih, T. E. (2017). Gambaran cyberbullying pada remaja pengguna jejaring sosial di sma negeri 1 dan sma negeri 2 ungaran. *Intuisi : Jurnal Psikologi Ilmiah*, 9(1), 86–92. doi : [10.15294/intuisi.v9i1.9577](https://doi.org/10.15294/intuisi.v9i1.9577)
- Zhong, J., Zheng, Y., Huang, X., Mo, D., Gong, J., Li, M., & Huang, J. (2021). Study of the influencing factors of cyberbullying among chinese college students incorporated with digital citizenship: From the perspective of individual students. *Frontiers in Psychology*, 12. doi : [10.3389/fpsyg.2021.621418](https://doi.org/10.3389/fpsyg.2021.621418)
- Zhu, H., Shi, F. C., An, L., Yin, X. S., Fu, M. H., Wang, Y. D., et al. (2016). Analysis on prevalence of cyberbullying in college students in china. *J. Jilin Univ. Med. Ed.* 42, 605–611. doi : [10.13481/j.1671-587x.20160337](https://doi.org/10.13481/j.1671-587x.20160337)