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The Moderating Role of Emotion Regulation in Relationship Between Narcissism and Cyberbullying

ABSTRACT

Along with the growing role of new technological solutions, we are becoming more and more exposed to the negative consequences of electronic forms of contact. Therefore, the aim of the study was to investigate the relationship between cyberbullying, both from the perpetrators' and victims' perspectives, and emotion regulation strategies and narcissism. It was hypothesized that cyberbullying correlates positively with emotion suppression and narcissistic rivalry and negatively with cognitive reappraisal and narcissistic admiration. Within cybervictimization, a positive relationship was predicted with emotion suppression and narcissistic rivalry, and a negative relationship with narcissistic admiration. Additionally, a model assuming moderation of emotion regulation strategies in the relationship between cyberbullying perpetration and narcissistic rivalry was analyzed. Students aged 19–26 years ($N = 208$, 49.5% female) participated in the study and completed the following online questionnaires: the Emotion Regulation Questionnaire, the European Cyberbullying Intervention Project Questionnaire, and the Narcissistic Admiration and Rivalry Questionnaire. The results indicated that cybervictimization was positively related to emotion suppression, and that narcissistic rivalry was positively related to cyberbullying and cybervictimization. The tested model of moderation was not

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validated for both emotion regulation strategies. The results of the research have practical implications and confirm the need for further research in this field.

INTRODUCTION

Is it possible today to imagine life without access to the Internet, mobile phones, or other media? Nowadays, the online environment plays an increasingly important role in people's lives. Along with the development of civilization and dynamic technological changes, people are expanding their possibilities in almost every area of life. The COVID-19 pandemic declared by the World Health Organization (WHO) in 2020 has necessitated appropriate technological preparedness, e.g., in the field of data digitization and process automation. Using constantly improving electronic devices and digital technologies, the existing modus operandi has been significantly reorganized, transferring many areas to online operation, e.g., the educational activity of schools and universities. As a result of minimizing the risk of the virus spreading, spending time in front of a computer or a smartphone has ceased to be a choice and has become an obligation, which has significantly increased the exposure to negative consequences, such as social isolation, lowered mood and mental health quality, increased e-addiction, etc. Cyberbullying, as one of the possible and very dangerous consequences, is a current topic within which there are still issues to be resolved. Therefore, the aim of this study was to analyze the relationship between cyberbullying and narcissism and emotion regulation.

Cyberbullying is defined as the commission of intentional, aggressive, and repeated acts over time by an individual or group of people using forms of electronic contact that target vulnerable

victims (Smith et al., 2008). Cyberbullying can be distinguished from traditional forms of violence by, among other things, the perpetrator's high anonymity on the Internet, a broad reach, the rapidity with which offensive material can spread, and the unlimited possibilities of harassment in terms of time and place. Research among children and adolescents leads to the conclusion that the phenomenon of cyberbullying is a current and universal problem that affects many countries (Chudal et al., 2021; Li et al., 2021; Sorrentino et al., 2019; Twardowska-Staszek & Zych, 2019; Zhu et al., 2021). The latest report of a nationwide survey conducted by NASK (the National Research Institute) provides information that every fifth adolescent reports exposure to online violence (Lange, 2021). The research conducted so far, both on perpetrators and victims of cyberbullying, has focused mainly on adolescents. Nowadays, there is a growing recognition of the need to carry out research work regarding adults (Jenaro, Flores, & Frías, 2018), including more diverse studies, e.g., from a cultural perspective (Jenaro et al., 2018).

Negative emotions play a significant role in experiencing and performing cyberbullying (Erreygers et al., 2018; Lonigro et al., 2015; Vranjes et al., 2018; Wang & Jiang, 2021). Research findings (Arató et al., 2020) show a significant relationship between cyberbullying and difficulties in the area of social-emotional competence. In addition, cyberbullying is a toxic experience for the individual, which can have a negative impact on various executive skills used to regulate behavior and emotions (Veiga Simão et al., 2021). Therefore, an interesting direction in the scientific research on cyberbullying is the aspect of emotion regulation strategies. Emotion regulation is understood as a person's ability to regulate their emotions, effectively helping them to cope with negative emotions such as sadness or fear (Braunstein et al., 2017). Thus, it refers to a set of strategies that are characterized by two dimensions: from the automatic to the controlled nature of the process of changing emotions, and from the unconscious to the

overt nature of the purpose of emotion regulation. A person uses each of these to increase, maintain or decrease the given components of an emotional response (Gross, 2001). In the current study, emotion control was framed from the perspective of an emotion suppression strategy, the essence of which is to inhibit behaviors associated with emotional responses such as gestures, statements, or facial expressions, and a cognitive reappraisal strategy, which cognitively and linguistically alters emotional responses by reformulating the meaning of a given situation (Goldin et al., 2009).

Research within the relationship of specific dimensions of emotional intelligence, both with traditional bullying and cyberbullying, has shown that the main difference between the two types of bullying relates to the perception of one's self as having the ability to use and regulate emotions (Baroncelli & Ciucci, 2014). A significant predictor of cyberbullying turns out to be a lower level of ability to control one's emotions, which is associated with a lower likelihood of considering alternative forms of expression and a tendency to choose negative social reactions. Research comparing both emotion control strategies shows that cognitive reappraisal is associated with a better ability to self-mitigate negative moods (John & Gross, 2004) along with more adaptive social functioning (Butler et al., 2003). In contrast, the emotion suppression strategy is associated with greater physiological arousal and a poorer quality of social relationships. Findings suggest that suppression of negative emotions may lead to a higher risk of reacting with aggression, e.g., in a situation of trying hard to hide anger resulting from interpersonal conflict (Scott et al., 2015). Therefore, it was predicted that cyberbullying positively correlates with the strategy of suppressing emotions and negatively correlates with the strategy of cognitive reappraisal of emotions (H1).

Previous research shows that experiencing negative emotional reactions due to upsetting events may expose young people to becoming victims of cyberbullying (Erreygers et al., 2018). Given

that they are at risk of using maladaptive emotion regulation strategies (Arató et al., 2020; Schunk et al., 2021), they may be exposed to negative social consequences. As research has shown (Butler et al., 2003), the constant use of emotion suppression is associated with social isolation and weakened bonds with other people, which provides a basis to assume that such individuals are at greater risk of experiencing aggressive or rejecting behavior. Thus, H2 can be predicted as: Cybervictimization positively correlates with emotion suppression strategy.

As in the case of the use of emotion regulation strategies, it can be assumed that certain personality traits (e.g., Machiavellianism, narcissism, openness to experience or agreeableness) are also associated with the tendency to commit or become a victim of cyberbullying. In the study by Miller and colleagues (2011), narcissism is understood as a personality trait that every person in the population has to varying degrees, and it is associated with, among other things, a sense of grandiosity, dominance, and aggression (Miller et al., 2011). One concept in this regard is the NARC model (The Narcissistic Admiration and Rivalry Concept) (Back et al., 2013), according to which the main goal of narcissism is to maintain a grandiose self-image. This can be achieved through two social strategies – an admiration strategy, in which social recognition is attained through self-enhancement, and a rivalry strategy, in which social failure is prevented through self-defense (Rogoza et al., 2016). Based on the theoretical assumptions and previous research, it was hypothesized that cyberbullying positively correlates with narcissistic rivalry and negatively correlates with narcissistic admiration (H3).

In light of previous research work, narcissistic rivalry is associated with a strategy of status acquisition through dominance, which is based on the exploitation of conflict (Zeigler-Hill et al., 2019). At the same time, the results suggest that individuals with a high level of narcissistic admiration may reach for the prestige strategy exemplified by the display of competence. Leadership

and authority forms of narcissism have been shown to negatively correlate with emotion regulation difficulties (Cheshure et al., 2020). In contrast, narcissism based on a sense of privilege and a desire to exploit others has been shown to be positively related to emotion dysregulation. Based on the finding that a significant predictor of cyberbullying is a lower level of ability to control emotions (Baroncelli & Ciucci, 2014), it is plausible that narcissistic rivalry and narcissistic admiration will therefore correlate differently with the phenomenon of cyberbullying. Research in the field of narcissism provides evidence that, in contrast to narcissistic admiration, narcissistic rivalry is positively related to socially ignoring the person, which is also associated with lower levels of interpersonal trust (Dong et al., 2020). Cyberbullying victims report feelings of loneliness, unhappiness, anger, and difficulty adapting to the environment (Balakrishnan, 2018; Şahin, 2012). Furthermore, research by Bingöl (2018) reveals interesting findings that cybervictimization may be a predictor of cyberbullying. Victims' hurtful experiences trigger negative emotions and impaired interpersonal skills in them, and therefore, seeking retaliation, they may presumably move towards aggressive self-defense. It is also predicted that cybervictimization negatively correlates with narcissistic admiration and positively with narcissistic rivalry (H4).

However, a review of the literature and research shows that the relationship between cyberbullying and dimensions of narcissism may not be clear-cut. Research by Cheshure et al. (2020) proves that narcissistic rivalry may be characterized by a reduced ability to effectively regulate emotional experiences due to weaker recognition of and response to emotions. The individual's adoption of a rivalry strategy directs their behavior towards the goal of subjugating others, which is often aggressive and deprecating in nature (Rogoza et al., 2016). Two types of emotional regulation strategies – cognitive reappraisal and emotion suppression – have different consequences for interpersonal functioning. The

use of emotional suppression results in a reduction of behavioral expression but, unlike cognitive reappraisal, does not reduce the level of emotion experienced (Gross, 2001). Moreover, it leads to an increase in physiological responses in people who are in social interaction. As narcissism remains positively correlated with aggression (Locke, 2009), it can be hypothesized that, depending on the chosen strategy for regulating this emotion, its relationship with cyberbullying may intensify or weaken. It is predicted that emotion regulation strategy is a moderator of the relationship between narcissistic rivalry and cyberbullying (H5).

METHOD

Participants and procedure

The study sample consisted of $N = 208$ individuals (49.5% female), who were students aged 19–26 ($M = 22.91$, $SD = 1.65$). The composition of the group in terms of place of residence was as follows: 48.1% of participants came from a large city (more than 100 thousand inhabitants), 12% from a medium-sized city (50–100 thousand inhabitants), 14.9% from a small city (up to 50 thousand inhabitants) and 25% from a village.

The survey was carried out using an anonymous and voluntary questionnaire method via Google Forms. The participants were recruited by posting online invitations on social media and sending them directly by e-mail or private message, taking into account the snowball selection method. Individuals were not paid for their participation in the study.

Measures

The Emotion Regulation Questionnaire, developed by Gross and John (2003) and translated into Polish by Kobylińska (2015), is used to measure subjects' tendency to regulate their emotions

using two strategies: cognitive reappraisal and expressive suppression. The questionnaire consists of 10 items, four of which refer to expressive suppression (e.g., "I keep my emotions to myself") and six to cognitive reappraisal (e.g., "When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm"). Respondents rate each statement on a 7-point Likert scale (form 1 = *strongly disagree* to 7 = *strongly agree*). The Cronbach's α in the sample took the following values: .84 for cognitive reappraisal and .74 for expressive suppression.

Cyberbullying was measured with the Polish version of the European Cyberbullying Intervention Project Questionnaire (ECIPQ; Brighi et al., 2012). The questionnaire consists of 22 items, 11 of which refer to cybervictimization (e.g., "Someone said nasty things to me or called me names using texts or online messages") and the remaining 11 to cyberaggression (e.g., "I said nasty things about someone to other people either online or through text messages"). Respondents rate each statement on a 5-point Likert scale (1 = *never to more*, 2 = *once or twice*, 3 = *once a month*, 4 = *once a week*, 5 = *more times a week*) based on their experiences in the past two months regarding cybervictimization and in the past six months regarding cyberaggression. In the present study, Cronbach's α was .86 for cybervictimization and .83 for cyberaggression.

Narcissism was measured using the Narcissistic Admiration and Rivalry Questionnaire (NARQ; Back et al., 2013) in the Polish adaptation of Rogoza, Rogoza and Wyszyńska (2016). The questionnaire consists of 18 items, of which nine refer to narcissistic admiration (e.g., "I am great") and the remaining nine items refer to narcissistic rivalry (e.g., "I react annoyed if another person steals the show from me"). Respondents rate each statement on a 6-point Likert scale (from 1 = *not agree at all* to 6 = *agree completely*). In the present study, Cronbach's α was .83 for both narcissistic admiration and narcissistic rivalry.

Statistical analyses

Statistical analyses were performed using the IBM SPSS Statistics 26.0 program. Basic descriptive statistics were calculated, along with the Komogorov-Smirnov normality test, which showed that none of the analyzed variables followed a normal distribution. Therefore, the relationships between pairs of variables were assessed using Spearman correlation. As a final step, a moderation analysis was conducted using Hayes' PROCESS macro (2017; Model 1) to determine whether an emotion regulation strategy was a moderator of the relationship between narcissistic rivalry and cyberbullying. The analyzed variables were centered.

RESULTS

Table 1 shows the basic descriptive statistics, including means, standard deviations, and correlations between variables. A correlation analysis to determine the relationship between emotion

Table 1. Basic descriptive statistics and Spearman's correlation coefficients for relationships between variables.

	M	*SD*	1	2	3	4	5	6
1. Narcissistic admiration	3.41	.88	–					
2. Narcissitic rivalry	2.72	.91	.18**	–				
3. Cognitive reappraisal	4.47	.17	.15*	.21**	–			
4. Expressive suppression	3.78	.31	−.05	.32***	−.19**	–		
5. Cyberbullying	1.17	.32	−.08	.21**	−.06	.07	–	
6. Cybervictimization	1.15	.31	−.06	.25***	−.12	.14*	.50***	–

*p < .05, **p < .01, ***p < .001.

regulation strategies and cybervictimization showed no relationship between them. A significant relationship was found between cybervictimization and emotion suppression. That is, the higher the level of cybervictimization, the higher the level of emotion suppression as a control strategy used (Table 1). A positive correlation was noted between narcissistic rivalry and cyberaggression and cybervictimization.

Emotion regulation strategy as a moderator of the relationship between narcissistic rivalry and cyberbullying

The first analyzed model included the strategy of cognitive reappraisal as a potential moderator of the analyzed relationship. This model fit the data well, $F(3, 204) = 6.84$, $p < .001$, and explained 9.1% of the variance in cyberaggression. The analysis did not reveal a moderating role for cognitive reappraisal strategies in the relationship between narcissistic rivalry and cyberbullying. The results of the analyses are presented in Table 2.

Table 2. Regression coefficients for a model of the moderating role of cognitive reappraisal strategies in the relationship between narcissistic rivalry and cyberbullying.

	B	SE	t	p	95% CI	
					LL	UL
Constant	1.17	.02	54.00	< .001	1.13	1.21
Narcissistic rivalry	.10	.02	4.27	< .001	0.05	0.15
Cognitive reappraisal	< .01	.02	.07	.941	−.03	.04
Interaction	−.01	.02	−.61	.543	−.05	.02

The second model analyzed included emotion suppression as a potential moderator of the analyzed relationship. This model fit the data well, $F(3, 204) = 6.83$, $p < .001$, and explained 9.1% of the variance in cyberaggression. The analysis did not show a moderating role of emotion suppression strategies in the relationship

between narcissistic rivalry and cyberbullying. The results of the analyses are presented in Table 3.

Table 3. Regression coefficients for a model of the moderating role of emotion suppression strategies in the relationship between narcissistic rivalry and cyberbullying.

	B	SE	t	p	95% CI	
					LL	UL
Constant	1.17	.02	52.82	< .001	1.13	1.22
Narcissistic rivalry	.11	.02	4.40	< .001	.06	.16
Expressive suppression	−.01	.02	−.40	.688	−.04	.03
Interaction	−.01	.02	−.44	.663	−.04	.03

DISCUSSION

The aim of the research was to analyze the relationship between cyberbullying and emotion regulation strategies and narcissism. It was hypothesized that two types of phenomena that cyber-bullying encompasses – cyberaggression and cybervictimization – would correlate differently with the two emotion regulation strategies (cognitive reappraisal and emotion suppression) and the two dimensions of narcissism (narcissistic admiration and narcissistic rivalry). Furthermore, a model assuming a moderating role of emotion regulation strategies in the relationship between the perpetration of cyberbullying and the rivalrous dimension of narcissism was tested. The results obtained only partially confirm the hypotheses.

The study predicted that cyberbullying correlates positively with the strategy of emotion suppression and negatively with the strategy of cognitive reappraisal. Although the results obtained suggest that there is no relationship between these variables, the

research carried out so far seems to be consistent with the result. Cognitive reappraisal and expressive suppression are strategies that lead to different consequences in the affective, cognitive, and social domains (Gross, 2002). Conclusions from their comparison usually turn out to be in favor of cognitive reappraisal. However, Gross suggests that they should not be explicitly categorized as adaptive or maladaptive, as both can be effective. Depending on the circumstances, suppressing emotions may be the only and accurate way to regulate them, and sometimes even better than cognitive reappraisal. In certain situations, it is far more beneficial for the individual to protect his or her own interpretation, especially when it concerns important goals and aspirations. The reassessment implied by the cognitive reappraisal strategy would therefore be threatening to them. Considering that both strategies are able to be adaptive and allow the individual to effectively regulate negative emotions, it seems reasonable that they are not related to the phenomenon of cyberbullying, which is clearly negative and aggressive in nature.

One of the assumptions of the research project was a positive relationship between the level of cybervictimization and emotion suppression, the significance of which was confirmed by the results obtained. It can be assumed that when individuals regularly use an emotion regulation strategy such as suppression, they are perceived as vulnerable by others, and their behavior is an expression of a certain weakness. By suppressing outward signs of experienced emotions, they presumably give a signal to potential abusers that in a provocative situation they will adopt a passive attitude and not engage in self-defense. An important issue here is also the conclusion drawn from earlier studies that show that the suppression of emotions is associated with perceived lower levels of support and closeness from others (Low et al., 2017). It provides a basis for speculating that this is a factor that makes an individual vulnerable to cybervictimization. It is possible that an individual who has less confidence in the willingness of those

around them to help and support them will be reluctant to attempt to counter attacks. In such circumstances, an individual therefore becomes an easy target for their abusers. Other research indicates that the use of emotion suppression is linked to a person's sense of being viewed less positively by their partner (Thomson et al., 2018). Furthermore, in situations of conflict between the two, suppressing emotions appears to put the relationship at further risk as a link between suppression and lower levels of disagreement resolution has been demonstrated (Thomson et al., 2018). Erreygers et al. (2018) also demonstrated that experiencing negative events is directly and indirectly, through feeling negative emotions, correlated with later encountering cyberbullying as a victim. Suppressing emotions, being a strategy linked to depressive mood (Low et al., 2017), may therefore presumably play a negative role in the phenomenon of cybervictimization. The findings presented above show that the conclusions are in line with previous research.

The hypothesis that cyberbullying is positively related to narcissistic rivalry and negatively related to narcissistic admiration was only partially confirmed. The results indicate a significant negative relationship between cyberbullying and narcissistic rivalry, while no significant effect was observed for the second dimension of narcissism. This pattern of results appears to be consistent with previous research and literature. Narcissistic admiration is a facet of narcissism in which the goal of a grandiose self-image is achieved through captivating behavior (Rogoza et al., 2016). This is accompanied by a desire to be perceived as someone special and fantasizing about one's outsize status. As the consequences of adopting this strategy include, among others, assuming leadership positions or achieving high social status, it is considered an adaptive form of narcissism (Rogoza et al., 2016). Narcissistic admiration involves a person using their personal charm and making the best impression possible, so engaging in cyberbullying appears to be an inappropriate behavior for such

self-imposed goals. In contrast to narcissistic admiration, the rivalry strategy is characterized by the aggressive defensiveness of the individual (Rogoza et al., 2016). In this case, the focus is more on devaluing others rather than using one's abilities. The person's behavior is characterized by a high level of aggression. The individual seeks to subjugate others, which consequently leads to a highly critical point of view as well as a lack of trust and rejection from the environment. According to research, narcissistic rivalry is also associated with a vindictive attitude and revenge-oriented behavior (Back et al., 2013). Narcissistic admiration, on the other hand, is correlated with a direct problem-focus strategy in conflict situations. As in the field of interpersonal relationships, differences between the two facets of narcissism are also found in the field of emotion regulation. Research by Cheshure et al. (2020) demonstrates that narcissistic rivalry, as opposed to narcissistic admiration, shows a positive relationship with difficulties in both emotion recognition and constructive response. Therefore, it can be hypothesized that individuals characterized by a rivalry strategy will be more likely to engage in violent behavior in the online environment. At the same time, the properties of narcissistic admiration indicate the opposite effect, although not strong enough for its relationship with cyberbullying to be negative.

The results also provided evidence of a positive relationship between the level of narcissistic rivalry and cybervictimization, where in the case of narcissistic admiration, no correlation was confirmed. In light of the research carried out so far and the literature on the subject, the results obtained seem reasonable. As mentioned above, narcissistic admiration is a facet of narcissism that takes on an adaptive character, and its manifestation may include, for example, exercising leadership (Rogoza et al., 2016). As a result, it is associated with greater social acceptance and a desire for admiration from others, which seems rather distant from the tendency to be a victim of cyberbullying. Furthermore, narcissistic admiration is positively associated with assertive

attitudes and higher levels of positive self-esteem (Back et al., 2013), which may also be a protective or exclusionary factor for cybervictimization. However, the positive relationship between cybervictimization and narcissistic rivalry, which also showed a positive correlation with cyberbullying in the current study, seems surprising. Although narcissistic rivalry is characterized by an aggressive and defensive attitude, the results obtained seem to be justified. It is worth noting that there was a moderate correlation between levels of cyberbullying and cybervictimization in the study. This pattern of results suggests that the perpetrators of cyberbullying, who are characterized by narcissistic rivalry, also experience cybervictimization. Perhaps the victims of their violent actions themselves engage in violent behavior over time as a form of retaliation. Furthermore, narcissistic rivalry is associated with actions aimed at belittling the other person, which consequently makes the individual characterized by it disliked by others (Back et al., 2013). Thus, it can be assumed that the negative attitudes of the environment will make the person vulnerable to becoming a target of attacks in the virtual world.

Gross's (2002) concept of emotion regulation strategy may provide a starting point to attempt to explain the findings within the moderation model that was tested. It was predicted that the emotion regulation strategy acts as a moderator in the relationship between narcissistic rivalry and cyberbullying. However, this concept was not confirmed. As previous research shows, emotion regulation strategies defined as negative, i.e., self-blame, blaming others, ruminating, and catastrophizing, exacerbate the anger that fuels cyberbullying behavior (den Hamer & Konijn, 2016). However, using positive emotion regulation strategies does not counteract the relationship between anger and cyberbullying. Referring to the assumptions of Gross (2002), who suggests caution towards categorizing the adaptability of cognitive reappraisal and emotion suppression, one might suspect that their use is not sufficiently divergent to alter the severity of the relationship between

narcissistic rivalry and cyberbullying. This seems to resonate with research indicating that narcissistic rivalry is a stable construct in both adolescents and adults (Rogoza & Danieluk, 2021).

LIMITATIONS AND FUTURE DIRECTIONS

Owing to the way the research design was carried out, some limitations can be identified. Firstly, the research is correlational in nature, making a cause-and-effect inference – which requires an experimental method – impossible. Secondly, the group of respondents was limited to students aged 19–26 years, which narrows the generalization of the conclusions obtained. Therefore, in future research, it would be worthwhile to consider a wider age range of respondents, taking into account that, nowadays, it is more and more common to find large age differences among students. Another limitation is the characteristics of the study group, which indicate that most people in the sample scored below average on cyberbullying. It might be worthwhile expanding the range of people surveyed to include more than just students. It also seems to be an interesting idea to carry out a comparison between groups of men and women within the severity of the level of cyberbullying and to try to re-verify the hypotheses, taking into account the division by gender. Attention should also be paid to the self-reported and cross-sectional nature of the study. It is suggested that future research be designed to include other methods, e.g., the observation of activity on social media profiles regarding the use of cyberbullying. Additionally, it can be suspected that indicators of cyberbullying and cybervictimization change over time, so it seems interesting to complement the research with longitudinal projects.

CONCLUSION

In conclusion, the main objective of the research conducted was to analyze the relationship between the phenomenon of cyberbullying, emotion regulation strategies, and two facets of narcissism. The results obtained prove that personal factors such as the emotion regulation strategy of suppression and narcissistic rivalry are related to the phenomenon of making or being a victim of violence using electronic forms of contact. The findings are a step towards a better understanding of the phenomenon of cyberbullying and add to the current knowledge about the factors that accompany it. These findings have implications for practice when it comes to prevention strategies, which may benefit from considering the role of emotional regulation and personality factors such as a tendency towards narcissistic rivalry in minimizing involvement in cyberbullying. However, further research is needed to confirm the constancy of such relationships over time, which may inspire future research projects.

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