



RESEARCH ARTICLE

Self-Control and the Phenomenon of Toxic Online Disinhibition in Teenagers Who Have Twitter

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Abstract: This study explores the significant negative correlation between self-control and toxic online disinhibition behaviors among adolescents on Twitter, utilizing a quantitative correlational methodology. The research focused on a purposively sampled group of 165 teenagers, aged 12-21, in Bekasi City who actively use Twitter. This selection was driven by the desire to understand social media behaviors among urban youth, with non-probability sampling allowing for targeted data collection from this specific demographic. The research instruments included a Likert scale to measure both self-control and the levels of toxic online disinhibition. Spearman correlation analysis revealed that higher self-control is associated with lower levels of toxic online disinhibition, indicating a moderate negative relationship. These findings underscore the importance of interventions aimed at enhancing self-regulatory skills among teenagers to mitigate negative online behaviors. Further research could incorporate mediating factors such as emotional intelligence and socio-environmental influences to enrich understanding of these dynamics. The results contribute to the existing literature by highlighting the potential of targeted educational policies in fostering more positive online interactions among youth.

Keywords: Self-control, Toxic online disinhibition, Teenagers, Social media

INTRODUCTION

The emergence of the internet has made cultural changes in human life. Activities that are usually carried out directly such as talking, playing and studying or finding a partner can now be done on the internet. Everyone can communicate without knowing time, place and identity. Media development in Indonesia has grown rapidly with the presence of technology that is also getting better (Ramadhani, 2023). Social media has a considerable impact on the use of technological development in Indonesia, where most users are teenagers to adults, because social media has the capability to entice individuals to engage actively in providing feedback, comments, and disseminating information without any temporal constraints.

A survey from the Global Web Index (GWI) said that Indonesia is one of the biggest social media users and ranked 5th. In its survey, GWI mentioned several types of social media that are often used, namely YouTube, Instagram, Facebook, Tumblr, Snapchat, Pinterest, and Twitter. Twitter is cited as the main means of communication through online social media due to its

technological advancements. A lot of information, news portals, and twitter accounts owned by domestic or foreign artists make users consider twitter to be a social media that is prioritized to visit. Meanwhile Gustam (2015) said that many twitter users say that twitter is a place to discuss and share through user tweets that contain various topics to talk about. In 2022, twitter emerged as the most widely utilized social media platform among users in Indonesia, which amounted to 18.45 million. This makes Indonesia ranked fifth in the use of the largest twitter application in the world (Ayu, 2022).

Social media users especially twitter are dominated 15-24 years old. (Dewi et al., 2022). Judging from the age level of adolescents who use social media in Indonesia, adolescents who use social media are included in the developmental period proposed by (Santrock 2012). Based on rule of social media, social media use minimum 17 years old because they can already use their concrete operations to form more complex operations. At this stage, they have the ability to think abstractly and do not need help with concrete objects or events (Ibda, 2015).

The ubiquitous nature of social media in Indonesia, particularly Twitter, is reshaping social interactions among its predominant users—teenagers. As the digital landscape expands, so does the complexity of interactions on platforms like Twitter, which has become not just a social tool but also a venue for expressing personal and often uninhibited thoughts. This phenomenon, commonly referred to as toxic online disinhibition, is particularly prevalent among the youth, who may lack sufficient self-

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control to navigate the intricacies of these interactions effectively.

But in fact there are many underage teens who manipulate their age in order to register themselves on these social media applications. Many studies have shown that age manipulation creates social media addiction which has a negative impact on adolescents. According to Daviz (in Aprilia et al., 2020) this is because underage teenagers are still unable to control themselves in using social media. Teenagers who are not old enough are individuals who are not socio-emotionally mature enough and need supervision and guidance in using the internet and social media (Ike, 2018).

Beside that, Widiyanti dan Herdiyanto (2013) said that adolescents have different characteristics in using social media, due to relatively different experiences, motives, attitudes and personality types. When adolescents use social media with high intensity, it can cause adolescents to have an apathetic attitude due to their low social interaction and social sensitivity (Efendi et al., 2017). Therefore, when teenagers are comfortable playing social media, they only care about their world until they are not sensitive to what is happening in their environment (Pratama, 2021).

Along with this, the results of research from Fitriyanti (2018) also say that social media makes it difficult for adolescents to socialize in the real world because they are too long in cyberspace, and prefer to be alone which then creates individualism in adolescents. The emotional result experienced by adolescents when they cannot control when they are using social media is that they cannot control themselves. Research from Wilcox & Stephen (2013) says that the existence of social media networks that can be accessed everywhere can reduce self-control that can have a wide impact, especially for adolescents and young adults who are the heaviest users of social media. Self-control when using social media is used to limit behavior so that it is not excessive and does not cross the limits of the norms that apply in society.

According to Syaroh (2019) self-control is an ability possessed by a person that is used to control his behavior in relative autonomy, from pressures that come from the external environment, innate, learning and physiological impulsivity. According to Tangney et al., (2004) self-control is the capacity to dictate the behavior inclinations inherent within an individual. Individuals who have negative self-control tend to be unable to resist negative urges as well, which makes these individuals tend to behave aggressively (Erpiyani, 2021). Individuals who have aggressive behavior usually attack an object with low emotional control, including factors influenced by self-control. The presence of anonymity stands as one of the elements impacted by self-control, as the utilization of social media has the potential to induce a lapse in self-control, consequently culminating in the manifestation of toxic behavior within the online sphere (Görzig & Ólafsson, 2013).

One of the toxic behaviors on social media is Online Disinhibition. Many have researched the impact of online disinhibition, such as an adolescent who is in a developmental period can be easily influenced by their environment and become more open in expressing their emotions and feelings when they interact in the online world (Lapidot-leffler & Barak, 2015).

The theoretical framework of this study draws upon psychological theories that elucidate the role of self-control in online behaviors. Baumeister's (1998) ego depletion theory, for instance, provides a compelling explanation for the fluctuation of self-control resources, suggesting that individuals with depleted self-control are

more likely to engage in negative online behavior (Baumeister, Vohs, & Tice, 2007). This is particularly relevant for understanding how teenagers may succumb to impulsive and sometimes harmful online exchanges after prolonged social media use. Further, the theory of online disinhibition by Suler (2004) explains how anonymity and invisibility on platforms like Twitter can decrease social restrictions and encourage more open, sometimes aggressive, expressions. Integrating these theories helps in understanding the psychological underpinnings of the behaviors observed among Indonesian teens on social media.

In this study, toxic online disinhibition corresponds to toxic behavior on social media. The Toxic Online Disinhibition Effect represents a manifestation of aggressive behavior that a person shows when in cyberspace (Gackenbach, 2007). Toxic Online Disinhibition Effect can occur because the personal identity owned by individuals is shown when interacting with others online, which can be seen through deep relationships through disclosure of individual self-identity, which is done through self-disclosure (Satriawan et al., 2016). Forms of toxic online disinhibition are such as saying harsh sentences and words, diatribes, ridicule, hatred, anger, threats or visiting dark sites on the internet.

The existence of toxic online disinhibition on the internet and social media is supported by the emergence of a phenomenon on twitter called "Salty Behavior", which is a condition where people show annoyance, harsh criticism or reproach on someone's post (Teniwut, 2023). Users in this twitter social media application do this because of feelings of annoyance so as to issue personal mocking message writing against others. On the twitter social media application there is a base account which is used by twitter users to send messages anonymously (Syafitri et al., 2020). Through this base account, twitter users can freely open themselves without others knowing their identity (Mardiana & Zi'ni, 2020). With this base account, it can support twitter users to be able to say harsh words without worrying about others knowing the real identity of the sender of the message.

These contents can be freely opened by anyone including teenagers. In addition, other negative impacts of twitter on adolescents are that it becomes difficult for adolescents to limit their time using twitter so that they forget to study, adolescents can also falsify identities for personal gain, the use of harsh words that dominate adolescents and the existence of hoax news that can be easily shared by simply retweeting the post (Simbolon & Siahaan, 2021).

Research by Gámez-Guadix et al. (2013) underscores the relevance of these theories to our context by demonstrating a significant correlation between reduced self-control and increased risk of cyber aggression among adolescents. However, while such studies lay the groundwork, they often do not account for cultural and social nuances specific to Indonesia, thus highlighting the need for localized research. In addressing the general statements about adolescent behavior, this study delves deeper into how specific characteristics of teenage social media users—such as their emotional and cognitive development stages—interact with self-control and online disinhibition. Adolescents are in a critical developmental window, often characterized by heightened emotional intensity and vulnerability to peer influences, which can exacerbate the effects of online disinhibition (Steinberg, 2008).

METHODS

The chosen methodology for this study is quantitative with a correlational design, specifically selected to identify and measure the strength of the relationship between self-control and toxic online disinhibition among teenagers. This approach is particularly appropriate for this type of investigation as it allows for precise quantification of the association between variables through statistical analysis (Coolican, 2014). By employing correlational techniques, this study can explore the directional and magnitude correlations without manipulating the study environment, thus providing insights into the natural interactions between these variables in the real world.

The sampling strategy employed was purposive sampling, targeting adolescents aged 12-21 who actively use Twitter in the city of Bekasi. This specific demographic was selected based on preliminary findings that suggest a high engagement rate with social media platforms among this group within urban settings (Smith & Duggan, 2013). Bekasi, a significant urban area, represents a dynamic environment where social media usage trends can be indicative of broader behavioral patterns in metropolitan regions of Indonesia, thus providing a relevant context for studying online behaviors.

The acquisition of data was conducted through the utilization of a survey instrument meticulously crafted on the Google Forms platform. During the data collection period, researchers obtained 165 respondents who met the research criteria. Teenagers who fill out this questionnaire are dominated by women, the age of those who fill out more is 18-21 years old, and respondents who fill out more in the Bekasi city area. From these results, researchers are looking more deeply into twitter user data, which is known to be more users are women according to Dwitama & Diana (2023), meanwhile Saputra (2019) said that men use more social media applications are Instagram and YouTube. According to Zaskya et al., (2021) in their research said that twitter is a place for self-disclosure about the feelings and events they experience, as well as about trending topics on twitter. Meanwhile, adolescents aged 18-21 years old because it fulfills the need for information about events around them, as well as the urge to gain knowledge and support decision-making opinions (Dewi et al., 2022).

In this study, the data collection process employed a questionnaire method, utilizing a Non-Probability Purposive Sampling technique. This approach was chosen to ensure the collection of specific data directly related to

the study's hypotheses from a clearly defined group of participants—adolescents using Twitter in Bekasi aged 12-21. This method is particularly effective for preliminary explorations where the relationships between variables are not yet clearly understood (Etikan, Musa, & Alkassim, 2016). Purposive sampling allows for the selection of subjects who are deemed most representative of or informative about the critical attributes relevant to the research. The primary rationale for selecting adolescents in Bekasi is their high engagement with social media, which could potentially expose them to varied degrees of online disinhibition (Smith & Duggan, 2013). However, this technique also introduces sampling bias as it does not provide a probability sample of the entire population, potentially limiting the generalizability of the findings. To mitigate this bias, the study incorporates robust validity checks and a detailed analysis to ensure that the findings can be cautiously extrapolated to similar urban adolescent populations.

Regarding the measurement instruments, the self-control scale was adapted from Averill (1973) framework which encompasses behavioral, cognitive, and decisional control aspects, enabling a comprehensive assessment of self-control facets. This scale was modified by Wibisono (2022) to ensure cultural and contextual relevance, and its reliability was established at 0.956, indicating excellent internal consistency. Similarly, the toxic online disinhibition scale, based on Gackebach (2007) work, includes measures of self-disclosure and flaming, which are pertinent to the online disinhibition context. This instrument, refined by Nugraha et al., (2022), demonstrated a reliability coefficient of 0.938, further validating its efficacy in this research setting. The process of scale adaptation involved expert reviews and pilot testing to ensure that the items are both valid and reliable for measuring the intended constructs within the Indonesian adolescent population. This study describes the relationship between the independent variable, such as self-control (X) and the dependent variable toxic online disinhibition (Y).

The instrument used in this research uses a Likert Scale with four answer options, such as Very Suitable (VS), Suitable (S), Not Suitable (NS), and Very Unsuitable (VU). The data analysis technique used in this research uses the Spearman Rank correlation test with data analysis using SPSS (Statistical Package for Social Science) version 27 in Windows.

Table 1.
Blue Print Toxic Online Disinhibition Scale

Aspects	Indicator	Before try out Favorable	After try out Favorable
Self Disclosure	Open about the situation emotions and issues faced on twitter	1,2,8,15	1,2,8,15
	Open about relationships interpersonal	3,4,6,9,11	3,4,6,9,11
	Open up about personal tastes and ideas on twitter	7,10,*13,16,19	7,10,16,19
Flaming	Unfavorable statement	5,12	5,12
	Seduction/promises	14, 18, 21, 22, 24	14,18,21,22,24
	Exclamation	20,25,26,27	20,25,26,27
	Expressions to other people	17, 28, 29	17,28,29
	Use of superlatives	23	30
Total		29	28

Note : aitem marked (*) is a canceled aitem with an r value ≤ 30

Tabel 2.
Blue Print Self-Control Scale

Aspects	Indicator	Before try out Favorable	After try out Favorable
Behavior Control	Individuals can control their behavior on social media	1,2,3,4,5,6,7,8,9,10,11,12	1,2,3,4,5,6,7,8,9,10,11,12
Cognitive Control	Individuals are able to be careful in processing the information they have with various considerations	13,14,15,16,17,18,19,20,21,22,23,24	13,14,15,16,17,18,19,20,21,22,23,24
Decisional Control	Individuals are able to control decisions for themselves	25,26,27,28,29,30,31,32,33,34,35,36	25,26,27,28,29,30,31,32,33,34,35,36
Total		36	36

Furthermore, the choice of the Spearman Rank Correlation Test was driven by the non-normal distribution of the data, as confirmed by the Kolmogorov-Smirnov test results. Spearman's method is ideal for ordinal data or data not meeting the assumptions of normality and is robust against outliers, making it suitable for this study's data characteristics (Corder & Foreman, 2014). The assumption tests performed, including tests for normality and linearity, were critical in confirming the applicability of the Spearman Rank Correlation Test. The findings from the linearity tests, which showed a linear relationship between the variables, support the use of correlational analysis. However, the non-normal distribution influenced the choice of statistical tests, leading to the selection of non-parametric methods which do not require normality as a prerequisite.

RESULTS

In this section, we present the findings of our analysis that explore the relationship between self-control and toxic online disinhibition among adolescents using Twitter, elucidating how variations in self-control affect behaviors within digital interactions. Based on the table 5, it is known that female respondents who filled in totaled 137 people

(83%) and 28 men (17%). Of the variations in age 12-15 years who filled in 6 people (3.6%), age 15-18 years old who filled in 20 people (12.1%), and 18-21 years old who filled in 139 people (84.2%). Meanwhile, from the variation of regions that fill more in the city of Bekasi, such as 121 people (73.3%) and Bekasi district as many as 44 people (26.7%).

Assumption Test

The results of the normality test conducted by researchers for the self-control scale obtained a Kolmogorov-Smirnov value of 0.200, while the toxic online disinhibition scale obtained a value of <0.001. It can be said that the significance value on one of the variables is < 0.05 so it can be said that the data is not normally distributed. The results of the linearity test that have been carried out by researchers obtained a Deviation Linearity value of 0.864, which means this shows that the significance value > 0.05 so that it can be said that the two variables have a linear relationship. Based on this assumption test, it is said that the data is not normally distributed and the two variables are said to be linear, so it can be continued to the next stage, namely the Rank Spearman correlation analysis.

Table 3.
Spearman Rank Correlation

		Y	X
Toxic Online Disinhibition	Correlation Coefficient	1.000	-.444**
	Sig. (2-tailed)	.	<.001
	N	165	165
Self-Control	Correlation Coefficient	-.444**	1.000
	Sig. (2-tailed)	<.001	.
	N	165	165

Hypothesis Test

In this study, the results clearly align with the research objectives by detailing the relationship between self-control and toxic online disinhibition among teenagers using Twitter. The analysis, employing the Spearman Rank Correlation due to non-normal data distribution, revealed a correlation coefficient of -0.444 ($p < 0.001$), which indicates a moderate negative relationship (table 4). This significant correlation substantiates the theoretical framework outlined in the literature review, suggesting that higher levels of self-control are associated with lower instances of toxic online behavior (Baumeister, Vohs, & Tice, 2007; Suler, 2004).

Categorization Test & Crosstabulation

In connection with this, researchers also categorized subjects based on the empirical mean (x) value of 69.79, the hypothetical mean (μ) with a value of 90, and the standard deviation (σ) with a value of 18 for the self-control variable. In the toxic online disinhibition categorization, the empirical mean (x) value is 114.89, the hypothetical mean (μ) is 70, and the standard deviation (σ) is 14. The following table shows the categorization of self-control:

Table 4.
Self-Control Categorization (N=165)

Variable	Categorization	Value Limit	N	Percentage
Self-Control	Low	< 72	3	1,8%
	Medium	72 – 108	49	29,7%
	High	> 108	113	68,5%
Toxic Online Disinhibition	Low	< 67,86	86	52,1%
	Medium	67,86 - 72,14	17	10,3%
	High	> 72,14	62	37,6%

The results of the data categorization table 5 show that of the 165 respondents, 3 (1.8%) were in the low category, 49 (29.7%) were in the medium category, and 113 (68.5%) were in the high category. So, the overall respondent from the results of self-control categorization shows that there tends to be more in the high categorization. The results of the toxic online disinhibition, it can be concluded that of

the 165 respondents, 86 respondents (52.1%) were in the low category, 17 respondents (10.3%) were in the medium category, and 62 respondents (37.6%) were in the high category. So the overall respondent from the results of the toxic online disinhibition categorization shows that there tends to be more in the low categorization.

Table 5.
Results Self-Control Crosstabulation (N=165)

Characteristics	N (%)	Self-Control				Toxic Online Disinhibition			
		Low	Medium	High	Total	Low	Medium	High	Total
Gender									
Male	137 (83)	0	5	23	28	5	18	5	28
Female	28 (17)	3	44	90	137	23	89	25	137
Age									
12-15 years	6 (3,6)	0	0	6	6	0	5	1	6
15-18 years	20 (12,1)	0	5	15	20	4	12	4	20
18-21 years old	139 (84,2)	3	44	92	139	24	90	25	139
Region									
City	121 (73,3)	3	38	80	121	19	79	23	121
District	44 (26,7)	0	11	33	44	9	28	7	44

Based on the crosstabulation table 6, it can be seen that this study is dominated by respondents who have a high level of self-control in the high category, precisely dominated by women (90 people) with an age of 18-21 years (92 people) and domiciled in the Bekasi City area (80 people). Based on this, women aged 18-21 years have higher self-control because when they get older, they will have better self-control (Ghufron & S., 2010). Based on the Toxic Online Disinhibition crosstabulation table, it can be seen that this study is dominated by respondents who have a moderate level of toxic online disinhibition, precisely dominated by women (89 people) with an age of 18-21 years (90 people) and domiciled in Bekasi City area (79 people). Female respondents who are at a high level prove that respondents do have toxic behavior on social media but in certain conditions and are not too vulgar.

The practical implications of these findings are profound, as they underscore the potential of self-control as a mitigative factor against the risks of online disinhibition, which includes cyberbullying, hate speech, and other forms of cyber aggression that are prevalent among teenagers (Gámez-Guadix et al., 2013). By enhancing self-control, educational programs and psychological interventions can effectively reduce these negative online interactions. This is particularly crucial given the pervasive influence of social media on teenage behavior and their psychosocial development (Meier & Gray, 2014).

Furthermore, the results contribute to a deeper understanding of the dynamics of adolescent behavior online, reinforcing the importance of structured social media education that includes training in emotional regulation and ethical online engagement. The findings suggest that such educational initiatives could foster a digital environment that promotes positive interactions and reduces the incidence of online toxicity. These results not only validate the concerns raised by previous studies regarding the impact of diminished self-control on online disinhibition but also highlight the need for targeted interventions that address this issue directly. The study's findings are instrumental for policymakers and educators in designing and implementing strategies that enhance self-control among adolescents, thereby improving their online experiences and overall well-being.

DISCUSSION

This study's findings regarding the significant negative correlation between self-control and toxic online disinhibition not only align with the existing theoretical framework but also expand our understanding of adolescent behavior in the context of social media. As elucidated by Baumeister, Vohs, and Tice (2007), the ego depletion theory suggests that lower self-control can lead to more impulsive and potentially harmful online behaviors, a hypothesis that our results robustly support.

Moreover, the online disinhibition effect described by Suler (2004) aligns well with our findings, where the anonymity provided by social media platforms like Twitter can facilitate more aggressive expressions among teens with lower self-control levels.

However, this research also pushes the boundaries of current understanding by suggesting that other factors could mediate or moderate the relationship between self-control and online disinhibition. For instance, the role of cultural context, which has been somewhat overlooked in the literature. Indonesia's unique socio-cultural environment might influence the manifestation of online behaviors differently compared to Western settings. This aligns with recent research by Meier and Gray (2014), which suggests that cultural differences can significantly impact how adolescents interact online.

Moreover, potential inconsistencies with existing literature, such as the stronger impact of self-control on online disinhibition observed in this study compared to others, could be attributed to differences in methodology, sample characteristics, or the specific social media platforms examined. This study's focus on Twitter, a platform known for its rapid and wide dissemination of information, may amplify the effects of disinhibition compared to platforms with different user dynamics and interaction styles.

The incorporation of additional variables such as age and gender could also provide deeper insights into the dynamics at play. Previous research has often not considered how these factors might affect the relationship between self-control and online disinhibition differently. For example, older adolescents might exhibit higher self-control due to their more advanced cognitive development, potentially buffering against the risks of online disinhibition (Steinberg, 2008).

The findings of this research underscore the critical role of self-control in moderating toxic online disinhibition among adolescents, offering significant implications for educators, parents, and policymakers. Based on the results, several concrete recommendations can be proposed to enhance self-control among teenagers in the realm of social media. First, educational programs designed to strengthen self-regulation skills could be integrated into school curricula. These programs should include specific training on emotional regulation, mindfulness, and ethical online communication practices. Tools such as cognitive-behavioral techniques can help adolescents recognize triggers that lead to impulsive online behaviors and develop healthier response strategies (Siemens & Kopp, 2011). For parents, establishing open lines of communication about the use of social media is crucial. Encouraging discussions about the psychological impacts of online interactions and fostering an environment where children can share their online experiences without fear of judgment or reprimand can help mitigate the risks associated with online disinhibition (Smith & Duggan, 2013).

Policymakers, on the other hand, could consider regulations that encourage social media platforms to create safer online environments. This might include developing standards for age-appropriate content, mechanisms for users to report toxic behavior easily, and more transparent processes for handling such reports. Additionally, policies promoting digital literacy education in schools can equip young users with the skills necessary to navigate social media responsibly (Livingstone & Smith, 2014). Regarding policy implications, this study suggests that enhancing self-control can significantly reduce negative online behaviors. Thus, public health campaigns could be

designed to raise awareness about the benefits of self-control and the dangers of online disinhibition. Such campaigns could use a variety of media to reach a broad audience, emphasizing the development of self-regulation as a key skill for digital citizenship.

Limitation and Recommendations for Future Research

This research contributes significant insights into the relationship between self-control and toxic online disinhibition among adolescents, laying a foundation for future studies and practical interventions. However, there are several limitations that future research should address to expand the robustness and applicability of the findings. The sample was restricted to adolescents in Bekasi, which may not represent all Indonesian teenagers. Additionally, the use of self-report measures to assess self-control and toxic online disinhibition could be subject to biases such as social desirability or self-perception discrepancies. Future research should consider a broader geographical area and potentially incorporate more objective measures or qualitative data to deepen the understanding of the studied phenomena.

Future studies could explore a broader demographic area to include a more diverse sample of adolescents across different regions or even countries to determine if cultural, socio-economic, or regional variations influence the relationship between self-control and online disinhibition. Such studies would benefit from employing a mixed-methods approach, combining quantitative measures with qualitative interviews or focus groups to gain deeper insight into the personal and contextual factors that influence online behaviors (Livingstone & Helsper, 2010). Additionally, investigating potential mediating or moderating variables that impact the relationship between self-control and online disinhibition could provide valuable information. For instance, exploring the roles of emotional intelligence, peer influence, or parental supervision could offer a more comprehensive understanding of how self-control impacts online behavior. The inclusion of longitudinal designs would also help in understanding the causality and evolution of these behaviors over time (Baumeister & Vohs, 2016).

CONCLUSION

This study confirms a significant negative correlation between self-control and the manifestation of toxic online disinhibition among adolescent Twitter users. The findings underline the critical importance of formulating educational strategies and policies that concentrate on enhancing self-control capabilities to mitigate the adverse effects of online social interactions. This relationship illustrates how higher levels of self-control are associated with reduced occurrences of negative behaviors such as cyberbullying, hate speech, and aggressive interactions in virtual settings, which are prevalent among teenagers on social media platforms like Twitter.

The results of this research suggest that interventions aimed at boosting self-control could play a pivotal role in curtailing harmful online behavior. Such interventions could include programs that teach coping mechanisms, emotional regulation, and ethical online communication. Further, the study highlights the potential of integrating self-control training into the curriculum of educational institutions to foster a more respectful and conscientious digital citizenry.

Looking ahead, this research could be expanded by incorporating additional mediating variables such as

emotional intelligence and the influence of the social environment, which could offer deeper insights into the complex dynamics governing teenagers' online behavior. Understanding these mediating factors could elucidate further how personal and contextual factors interact to influence an adolescent's capacity for self-regulation in the digital realm. Ultimately, this study does not merely bolster the existing academic literature but also serves as a foundational reference that offers practical insights for policymakers, educators, and social workers. It encourages the development and implementation of targeted strategies that promote positive online interactions through improved self-control, thereby enhancing the online safety and well-being of adolescents.

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