

The Relationship between Hoax Behavior and Toxic Disinhibition among Indonesian High School Students

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Abstract

This research is motivated by the phenomenon of many students engaging in toxic behavior on the internet, so it needs to be investigated more deeply to gain a comprehensive understanding of this issue. The purpose of this research is to examine (1) the description of toxic disinhibition behavior and (2) the description of hoax behavior among students in Indonesia, and (3) to test the relationship between hoax behavior and toxic disinhibition behavior. The research method used is a quantitative cross-sectional approach. The research sample consists of 600 students from seven provinces in Indonesia, selected using purposive sampling techniques. The research instruments used are tested scales for hoax behavior and toxic disinhibition. The data is analyzed using simple regression with the assistance of SPSS version 25.00. The findings of the research indicate that hoax behavior is correlated with toxic disinhibition. The implications of this research are that students need to gain insights into healthy and productive online activities to prevent them from engaging in toxic behavior on the internet.

Keyword: Hoax behavior, toxic disinhibition, and senior high school students

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Introduction

Information media has become an essential part of human daily life, in line with the advancements in science and technology (Kordyaka & Kruse, 2021; Zhong et al., 2020). In this era, people seek to obtain information about events, messages, opinions, and news happening around them and across the globe more conveniently (Zhong et al., 2020; Brooks, 2009). This is reflected in the use of emerging new media alongside current

technological progress (Alonzo & Aiken, 2004; Moore, 2019). However, this convenience can also be exploited by a group of individuals with the intent of disseminating fake news or hoaxes (Voggeser et al., 2018; Afdal et al., 2023). In typical circumstances, such actions harm society as a whole, while the purveyors of fake news may perceive benefits for certain reasons (Shih, 2014).

Data from Ipsos (2013) showed that around 37% of Facebook users shared information about their personal details and identities, while approximately 22% reported their daily activities on social media. This means that a significant portion of Facebook users were open about aspects of their personal lives, such as their names, photos, locations, and other identifying information. This also indicates that a substantial portion of users were actively sharing their day-to-day experiences, which might include things like what they were doing, where they were, or other routine activities they engaged in. Ardi and Maison (2014) found that Facebook users in Indonesia were more inclined to share detailed information such as their jobs, professions, religion, political opinions, and family information compared to Facebook users in Poland.

The Ipsos survey results from 2013 also indicated that Indonesia (76%) and China (76%) ranked highest in sharing interesting information about their daily lives on social networks, compared to countries like Turkey, Canada, and South Africa (Ipsos, 2013). According to Emanuel (2014), respondents were more willing to share personal information in the online world than in real life. Online media provided a sense of freedom in communication because it allowed individuals to be less bound by their real-life identities (Ardi, 2016).

In addition to sharing personal information, people often manipulate information to gain acceptance from their surroundings. Drouin et al., (2016) found that respondents believed that others sometimes lied about their age, gender, activities, interests, and appearance on social media. Up to 90% of people expected the possibility of lies related to their appearance, while 55% expected the possibility of lies related to their gender. One form of negative social media behavior is toxic disinhibition.

Toxic disinhibition is behavior that arises in online communication and is often impolite. The term "toxic disinhibition" is part of a phenomenon called the "online disinhibition effect," first defined by Joison (1998). The online disinhibition effect is the inability of someone to control their impulsive behavior when communicating online, which may differ from their behavior in the real world (Joinson, 2007). In this context, Suler (2004) explained that the online disinhibition effect encompasses the differences in behavior between the online and real-world realms. Toxic disinhibition is closely related to hoax behavior, where online disinhibition behavior may encourage someone to lie (Lapidot & Barak, 2012).

Online disinhibition refers to the inclination to feel less restricted and unconcerned about the potential consequences of one's actions within the digital realm (Suler, 2004; Udriș et al., 2016; Wright et al., 2019). The influence of online disinhibition arises from characteristics inherent to the online environment, such as anonymity, invisibility, and asynchronous communication, and elucidates why individuals display unsociable conduct on the internet (Suler, 2004). In fact, people may be more prone to engage in aggressive conduct due to the physical and temporal separation between their harmful actions and the resulting consequences, the anonymous ambiance, and text-based communication (Runions & Bak, 2015; Suler, 2004). Empirical studies have indicated that online disinhibition poses a risk for online unsociable behavior, such as hate speech and cyberbullying (Wachs et al., 2019; Wang et al., 2023). There are two categories of online disinhibition, specifically toxic disinhibition and benign disinhibition (Suler, 2004).

"Toxic" is defined as a substance that is detrimental, while "disinhibition" pertains to conduct displayed by an individual, both in the virtual and real worlds, that deviates from their real-world behavior (Suler, 2004). Toxic disinhibition represents an aberrant behavior in which individuals, while interacting online, disregard societal norms and established regulations (Moore, 2019). On the other hand, benign disinhibition involves the sharing of deeply personal information in the digital realm, including the disclosure of secrets, fears, desires, as well as acts of kindness and generosity (Kordyaka & Kruse, 2021). Conversely, toxic disinhibition relates to the negative facets of online behavior, encompassing hate speech,

offensive language, severe criticism, threats, pornography, and other harmful behaviors (Moore, 2019; Suler, 2004).

Previous studies have showed that online disinhibition significantly moderates factors connected to aggression and unsocial online conduct (Wang et al., 2014; Wright et al., 2019). For instance, online disinhibition can notably magnify the adverse effects of callous-unemotional traits (Wright et al., 2019), moral disengagement (Wang et al., 2022), and peer affiliation on online bullying. These findings uphold the concept of additional risk effects, indicating that one risk factor can amplify the detrimental impact of another factor. Salah satu faktor yang berkorelasi dengan toxic disinhibition adalah hoax behavior.

Dyatmika's research (2020) in Tegal Regency found that 37.8% of high school students engaged in hoax behavior. Hoax is an attempt to deceive readers/listeners into believing false news, even though the news creator knows it is untrue. One common example of false news is the claim of objects or events under a different name than their actual identity (Afdal et al., 2023). In Indonesian, "fake" is synonymous with "fake news." Hoaxes or false news can significantly impact people's emotions and lead them to be unaware that they are being deceived (Afdal et al., 2023).

Therefore, "hoax behavior" is the act of spreading false news, whether consciously or not. The phenomenon of hoax dissemination continues to rise, even if everyone engages in it, similar to the spread of slander. In Solihin's study (2021), it was revealed that in 2020, the spread of hoaxes increased by 133% from the previous year, reaching 20,360 cases out of 1,011 cases. The most common themes were related to politics (40.8%), followed by health themes related to Covid-19 (24.1%) (Garnesia, 2021).

Hoax behavior and toxic disinhibition have become prevalent issues within certain schools, with a significant number of students engaging in these behaviors as part of their regular online activities (Afdal et al., 2023). This has raised concerns among teachers, school administrators, and policymakers, as students, who are the potential future leaders of the

nation, should ideally be champions of positive values. Consequently, this study is designed to investigate the connection between hoax behavior and toxic disinhibition among high school students in Indonesia.

Current study

The relationship between hoax behavior and toxic disinhibition is a concept rooted in the field of psychology and social behavior (Corcoran & Andover, 2020; Kim, 2017). Hoax behavior, essentially the creation and dissemination of deceptive or false information, is often influenced by a phenomenon known as toxic disinhibition (Lapidot-Lefler & Barak, 2012). Toxic disinhibition is a state where individuals feel emboldened to express extreme or harmful thoughts and actions in online environments, typically due to the anonymity or reduced social accountability that these platforms provide (Suler, 2004).

To understand this connection, we must delve into the psychological underpinnings (Suler, 2004; Wang et al., 2022). In the context of the internet and social media, people often feel detached from the consequences of their actions (Suler, 2004; Wright et al., 2019). They may adopt personas or pseudonyms that hide their real identities, which can lead to a sense of freedom from social norms and inhibitions (Runions & Bak, 2015; Suler, 2004). This newfound anonymity and reduced accountability contribute to toxic disinhibition (Wachs et al., 2019; Wang et al., 2022).

When individuals experience toxic disinhibition, they may be more likely to engage in hoax behavior (Moore, 2019; Suler, 2004). The lowered inhibitions allow them to spread false information without the fear of real-life repercussions (Wang et al., 2023; Wright et al., 2019). This behavior can range from sharing misleading news articles or making up stories to provoke emotional responses in others. The perception of not being held responsible for their actions can make individuals more prone to engaging in hoax behavior, as they believe they can escape any consequences (Corcoran & Andover, 2020; Kim, 2017).

The connection between hoax behavior and toxic disinhibition lies in the online environment's ability to reduce social accountability, enabling individuals to engage in deceptive or harmful actions without fear of repercussions (Suler, 2004; Wachs et al., 2019; Wang et al., 2023). Understanding this relationship is crucial for addressing the proliferation of hoaxes and misinformation in the digital age and finding ways to promote responsible online behavior (Corcoran & Andover, 2020; Kim, 2017; Suler, 2004).

The relationship between hoax behavior and toxic disinhibition in this study was viewed through the lens of the Social Identity Model of Deindividuation Effects (SIDE) by Lea and Spears (1991), offers a insight into online dynamics. SIDE suggests that online environments often foster a sense of anonymity and reduced self-awareness, leading individuals to experience a diminished sense of personal accountability and self-identity. This reduced accountability can result in a shift from an individual identity to a group identity. In this context, the concept of toxic disinhibition comes into play.

Toxic disinhibition, within the SIDE framework, refers to the phenomenon where individuals feel less constrained by social norms and personal inhibitions when interacting in online groups or communities. They may use pseudonyms or avatars that obscure their true identities, creating a perception of detachment from real-world consequences. This sense of detachment can embolden individuals to engage in behaviors they might avoid in offline settings, including spreading hoaxes or false information.

In this context, the relationship between hoax behavior and toxic disinhibition becomes evident. The reduced self-awareness and perceived anonymity in online spaces can encourage individuals to create and disseminate hoaxes or false information, as they believe they can evade personal responsibility for their actions. This behavior aligns with the SIDE theory's proposition that individuals, under the veil of anonymity, tend to adopt actions that are in line with the perceived norms of their online groups, even if these actions are deceptive or harmful.

In summary, the Social Identity Model of Deindividuation Effects (SIDE) helps explain the connection between hoax behavior and toxic disinhibition in online settings. Anonymity and reduced self-awareness in these environments can foster a sense of detachment from personal accountability, ultimately encouraging individuals to engage in deceptive actions like spreading hoaxes, driven by a desire to conform to the perceived norms of their online communities, even if these actions are undesirable or antisocial. Understanding this relationship is vital for addressing the proliferation of hoaxes and misinformation in the digital age. In essence, the existing knowledge gap highlights the necessity for further research to explore the connections, interactions, and potential outcomes of hoax behavior and toxic disinhibition. Addressing this gap can yield valuable insights into how our digital behaviors impact our social interactions and psychological well-being, both in the online and offline realms.

Method

Participants

This research is a quantitative study using the asymmetric correlation descriptive method. The population in this study represents all students in Indonesia, consisting of 34 provinces, namely: West Java, East Java, Central Java, North Sumatra, South Sumatra, South Sulawesi, Batam, Lampung, East Nusa Tenggara, Aceh, Riau, DKI Jakarta, West Sumatra, West Nusa Tenggara, West Kalimantan, South Kalimantan, Jambi, Southeast Sulawesi, East Kalimantan, Central Sulawesi, Yogyakarta, Bali, Central Kalimantan, Maluku, North Sulawesi, Papua, Bengkulu, Riau Islands, North Maluku, Gorontalo, West Papua, and North Kalimantan. In this study, the combination of the sampling method used is cluster stratified sampling. Sampling is done in two stages. The first step is to select clusters from the 34 provincial sampling units in Indonesia, and the second step is to randomly select cluster samples obtained in the first step. The final sample in the study consists of high school students in Indonesia, with a total of 600 students from the provinces of North Sumatra, West Sumatra, Riau, Aceh, East Java, West Java, and Sulawesi. Table I shows the sample sizes for each province in Indonesia.

Table I
Research sample distribution

Province	Number
North Sumatera	186
West Sumatera	132
Riau	225
Aceh	60
East Java	11
West Java	4
Sulawesi	42
Total	660

Measurements

Data collection for this study utilized toxic inhibition scale and hoax behavior scales. All two scales have been tested for validity and reliability, and they demonstrated satisfactory results as measurement tools.

Toxic Inhibition Scale

The toxic inhibition scale was developed based on Suler's theory (2004) and consists of 25 items that measure individuals' levels of toxic inhibition. This scale uses five response alternatives. The scoring for positive statements is extremely true (score 5), true (score 4), quite true (score 3), not true (score 2), and extremely not true (score 1). For negative statements, the scoring is reversed: extremely true (score 1), true (score 2), quite true (score 3), not true (score 4), and extremely not true (score 5). Examples of toxic disinhibition items include "I like spreading fake news on the internet" "I enjoy insulting people on social media." "I have a tendency to make statements to provoke anger on the internet." The reliability coefficient (Cronbach's alpha) of this scale is $\alpha = .883$

Hoax behavior scale

The hoax behavior Scale was developed in Afdal's theory (2023), which delineates four dimensions of hoax behavior: analytical thinking ability, fundamental scientific knowledge, trust in news sources, and satisfaction with and engagement in disseminating news. Scoring

for positive statements is as follows: extremely true (score 5), true (score 4), quite true (score 3), not true (score 2), and extremely not true (score 1). conversely, for negative statements, the scoring is inverted: extremely true (score 1), true (score 2), quite true (score 3), not true (score 4), and extremely not true (score 5). Examples of hoax behavior items include statements like "I enjoy spreading false news on the internet," "I unquestionably believe all information on the internet," and "I take pleasure in fabricating fake news to frighten people." The reliability coefficient Cronbach's alpha for this scale is $\alpha = .890$.

Data Analysis

This research used bivariate analysis using Pearson correlation with the assistance of SPSS version 25.00. Before analysis, an assumption test was conducted to assess the normality and linearity of the data.

Result

The first stage involved testing the prerequisites, which are normality and linearity tests. The normality test of the data distribution was conducted using the Kolmogorov-Smirnov Test, where data is considered normally distributed if the p-value is > 0.05 . The results of the normality test showed that the data for the variables toxic disinhibition ($p= 0.158 > 0.05$) and hoax behavior ($p= 0.061 > 0.05$) are normally distributed. The linearity test results indicated that the relationship between toxic disinhibition and hoax behavior is linear ($p= 0.032 < 0.05$).

Table 2 illustrates the distribution of hoax behavior (X) across distinct levels, presenting both their frequencies and percentages. The categorization comprises five tiers: very high, high, moderate, low, and very low. Within the 660 cases examined, the most prevalent level of hoax behavior is 'High,' with 263 instances, accounting for 39.85% of the total sample. 'Very High' hoax behavior follows closely with 169 cases, representing 25.61%. 'Moderate' hoax behavior is observed in 167 cases, constituting 25.30% of the total. 'Low' hoax

behavior is less common, with 61 cases, making up 9.24%. Notably, there are no instances of 'Very Low' hoax behavior in the sample, indicating a 0.00% occurrence in this category. This distribution offers valuable insights into the prevalence of distinct hoax behavior levels within the sample of 660 cases, facilitating a deeper understanding of the distribution of this behavior across various categories.

Tabel 2
Frequency Distribution and Percentage of Hoax Behavior (X) (n=660)

Categorization	Frequency	Percentage (%)
Very high	169	25.61
High	263	39.85
Moderate	167	25.30
Low	61	9.24
Very low	0	0.00
Total	660	100

Table 3 presents the frequency distribution and percentage of Toxic Disinhibition (X) within a sample size of 660. The data is categorized into five groups based on the level of Toxic Disinhibition. The largest group falls into the "High" category, with 323 individuals, representing approximately 48.94% of the sample. This suggests that nearly half of the participants exhibited a high level of Toxic Disinhibition. This might indicate a significant presence of toxic online behavior or a tendency to engage in online activities that promote harm or negativity.

The second most common category is "Very High," with 161 individuals, making up about 24.39% of the sample. This indicates that a substantial portion of the participants also showed very high levels of Toxic Disinhibition, suggesting that a quarter of the sample has a propensity for severe online toxicity. The "Moderate" category consists of 164 individuals, representing approximately 24.85% of the sample. This suggests that a substantial proportion of the participants exhibited moderate levels of Toxic Disinhibition. This might imply a moderate tendency to engage in harmful online behaviors or a somewhat balanced online presence.

The "Low" category is the smallest, with only 12 individuals, accounting for 1.82% of the sample. This indicates that only a very small percentage of participants displayed low levels of Toxic Disinhibition, implying that a negligible fraction of the sample engages in harmful online behavior. The "Very Low" category has zero individuals, signifying that no one in the sample had very low levels of Toxic Disinhibition.

In conclusion, the results of Table 3 reveal that a significant portion of the sample exhibited high or very high levels of Toxic Disinhibition, which may indicate a concerning prevalence of toxic online behavior within the studied population. Conversely, only a small minority exhibited low levels of Toxic Disinhibition, and no one displayed very low levels. These findings suggest a need for further analysis and potential interventions to address and mitigate online toxicity within this context.

Tabel 3
Frequency Distribution and Percentage of Toxic Disinhibition (X) (n=660)

Categorization	Frequency	Percentage (%)
Very high	161	24.39
High	323	48.94
Moderate	164	24.85
Low	12	1.82
Very low	0	0.00
Total	660	100

Based on the Pearson Correlation analysis results, it shows $r = 0.083$ with $p = 0.033 < 0.05$. This indicates a significant positive correlation between hoax behavior and toxic disinhibition.

Discussion

This research aims to examine the relationship between hoax behavior and toxic disinhibition. The results indicate a significant positive correlation between hoax behavior

and toxic disinhibition. In other words, when hoax behavior increases, then toxic disinhibition also tends to increase. Based on the results of the toxic disinhibition data analysis, it shows that 73.33% of the research samples fall into the high to very high category. This suggests that the majority of individuals in the study tend to display aggressive, impolite, or toxic behavior in online communication or within the specific context under investigation. This could have implications for understanding and managing toxic disinhibition behavior in that environment, potentially requiring preventive measures or approaches to reduce the levels of toxic disinhibition occurring. Meanwhile, based on the analysis of hoax behavior data, it shows that as much as 65.46% of the research samples fall into the high to very high category. The result indicates a significant prevalence of hoax behavior within the research samples. This suggests a concerning trend where a substantial portion of the study participants displayed behaviors associated with spreading false information or engaging in deceptive practices.

These findings are in line with psychological theories that propose how technology-mediated communication, like using smartphones and the act of hoax behavior, can bring about alterations in communication patterns and conduct. One pertinent theoretical framework in this regard is the Social Identity Model of Deindividuation Effects (SIDE), as proposed by Lea and Spears (1991). This theory elucidates how the anonymity and reduced accountability in online settings, as seen in hoax behavior, can result in heightened toxic inhibition (as observed in Postmes, Lea & Spears, 1992). The underlying concept is that when individuals feel anonymous, they may engage in behaviors they would normally avoid in face-to-face interactions, leading to toxic disinhibition (Spears & Lea, 1992). Furthermore, these findings are consistent with earlier research conducted by Chotpitayasunondh and Douglas (2016), which identified connections between hoax behavior and related factors such as smartphone addiction, internet addiction, the fear of missing out and toxic disinhibition. This implies that these results can be understood within a broader context of digital communication behaviors and their impact on psychological and social dynamics.

In their study, Afdal et al., (2023) discovered that a strong link exists between satisfaction and the inclination to display hoax behavior tendencies, accounting for 54.9%, while other factors contribute to the remaining 45.1%. Likewise, hoax behavior tendencies significantly impact the satisfaction variable, making up 74.3%, with the remaining 25.7% influenced by other factors. These results indicate that increased satisfaction stemming from hoax behavior tendencies results in heightened levels of action. Conversely, basic scientific knowledge plays a minor role in the action aspect, contributing only 21.7%, suggesting that even a basic understanding of science can mitigate this inclination. Furthermore, the influence of trust in news sources on analytical thinking ability amounts to 24.4%, implying that relying too heavily on information sources can lead to misguided behavior. Consequently, this study underscores that the primary driver of the propensity for engaging in hoaxes is satisfaction, while even minimal levels of basic scientific knowledge have a counteractive effect.

In a psychological context, the relationship between hoax behavior and toxic disinhibition is intriguing and complex. Hoax behavior refers to the deliberate dissemination of false or misleading information, often with the intent to deceive or manipulate others. This behavior can be driven by a variety of factors, and one of the key elements here is satisfaction (Afdal et al., 2023). When individuals derive satisfaction or some form of gratification from creating and spreading hoaxes, it can be seen as a manifestation of their psychological needs or desires (Bonow et al., 2023; Lee, 2023; Charaschanya, 2018). This satisfaction may stem from the feeling of power, control, or even the sheer enjoyment of misleading others.

Toxic disinhibition, on the other hand, pertains to a state in which individuals display reduced self-control and inhibition, often in the online or anonymous context (Lea & Spears, 1991). This phenomenon can lead to behaviors that individuals might refrain from in face-to-face interactions, such as engaging in trolling, cyberbullying, or spreading hoaxes (Ling et al., 2020; Nor, 2019). Toxic disinhibition is frequently related to anonymity, as people feel shielded from the consequences of their actions (Williams & Pearson, 2016).

The psychological link between hoax behavior and toxic disinhibition can be seen in how these behaviors often co-occur in online environments. Anonymity and reduced accountability in digital spaces can embolden individuals to engage in toxic disinhibition, and this can extend to spreading hoaxes as a form of manipulation or entertainment (Lea & Spears, 1991). The satisfaction derived from successfully misleading others might further fuel this behavior in a feedback loop (Afdal et al., 2023). Understanding this relationship from a psychological perspective highlights the role of online environments and anonymity in facilitating behaviors that individuals might not exhibit in offline settings. It also underscores the need for research and interventions aimed at addressing the underlying psychological motivations for hoax behavior and toxic disinhibition in the digital age.

This research focuses on exploring the connection between hoax behavior and toxic disinhibition among Indonesian students, shedding light on this intriguing aspect of online behavior. However, there are various constraints to consider. Firstly, the study's cross-sectional design restricts our ability to establish causal links between hoax behavior and toxic disinhibition. Future research could use longitudinal designs to understand how these behaviors change over time and whether one precedes the other.

The use of self-reported data may introduce potential bias because participants might not provide accurate information due to social desirability concerns or memory lapses. Combining self-reports with observational data using mixed-method approaches could increase the validity of the findings. Additionally, it's important to ensure that the sample represents a broader spectrum of Indonesian students. Conducting further research with more diverse and comprehensive sampling methods would improve the study's generalizability.

Cultural factors may also significantly influence hoax behavior and toxic disinhibition behaviors. Future studies could incorporate qualitative methods to explore cultural norms and societal pressures that contribute to these behaviors, offering a deeper contextual understanding. To address issues related to measurement tools, researchers should use

validated instruments that accurately capture the concepts of interest, adapting and validating them for the specific cultural context of Indonesian students.

Furthermore, examining potential third variables, such as personality traits or mental health factors, is crucial for a comprehensive understanding of the relationship. Analyzing data while controlling for these variables could provide a clearer view of the connection between hoax behavior and toxic disinhibition. Lastly, while this study provides insights into the relationship, future investigations could explore the long-term effects of these behaviors on individuals' psychological well-being, relationships, and academic performance. This would offer valuable insights for interventions aimed at mitigating the negative consequences of hoax behavior and toxic disinhibition among students.

To sum up, although this study provides valuable insights into the link between hoax behavior and toxic disinhibition among Indonesian students, its limitations highlight the necessity for future research efforts that utilize robust research designs, culturally adapted measurement tools, and comprehensive sampling strategies. Addressing these limitations will improve the reliability, validity, and applicability of the findings in both academic and practical contexts.

Conclusion

Based on the research findings, it can be concluded that there is a significant relationship between hoax behavior and toxic disinhibition behavior. The study's results indicate a meaningful correlation or association between these two types of online behaviors among the surveyed students in Indonesia. This suggests that individuals who engage in hoax behavior are more likely to exhibit toxic disinhibition behavior in the online environment. Therefore, addressing and understanding these behaviors are important for promoting healthier and more responsible online interactions among students and potentially the wider online community.

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