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Anonymous digital identity and cyberbullying : A field study on a sample of secondary school students

Dr. Mostefai Bouanani, University of Saida/Dr.Moulay Tahar, Algeria
bouanani.mostefai@univ-saida.dz

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Abstract:

The study aimed to identify the relationship between anonymous digital identity and cyberbullying, where collecting data and information that identifies an individual online has become an easy target for cyberbullies. Bullies exploit individuals' digital identities to harm them and spread rumors and false propaganda. The study sample consisted of 100 male and female secondary school students who were selected at random. After statistical processing, the results showed the following:

- There is a statistically significant correlation between anonymous digital identity and cyberbullying.
- There are statistically significant differences at the significance level (0.05) from the perspective of the study sample, attributed to the gender variable in favor of males in forms of cyberbullying. There are no statistically significant differences attributed to the academic level variable.

Keywords: digital identity, cyberbullying, secondary school students

1. Introduction:

Being in the virtual world through digital identity has had different effects on users' habits and patterns of interaction and communication in the digital environment. This presence presents opportunities and risks on psychological, social, and technical levels, which may make digital identity vulnerable to different types of privacy crimes.

Digital identity is the online representation of an individual's personal information—it includes usernames, passwords, biometric data, and digital fingerprints. With the increasing importance of digital services in our daily lives, our online personas have become an essential part of our identities. Just as you protect physical assets such as your passport or driver's license, it is also necessary to protect elements of your digital identity. Although digital identity simplifies online services, there are risks associated with storing too much personal data online. Identity theft and fraud are among the biggest risks, as they use

Cybercriminals use methods such as phishing or malware to steal personal data. If they gain access to components of your digital identity, they can either sell the data or use it to commit fraud. They can also use it to threaten and bully people, with cyberbullying becoming increasingly common through the use of digital technologies. It occurs on social media, messaging platforms, online gaming platforms, and cell phones. It is a recurring behavior that aims to intimidate, anger, or defame the targeted individuals. Examples of this type of bullying include spreading lies or embarrassing photos of someone on social media, sending harmful or offensive messages, photos, or videos, or threats via messaging platforms, impersonating someone and sending nasty messages to others in their name or through fake accounts, as well as sexual harassment or bullying using generative artificial intelligence tools.

Study problem:

Bullying in schools has become a serious phenomenon that threatens the safety of students and the proper and sound conduct of the teaching process, as it affects students' psychology and prevents them from studying and achieving academic excellence, as well as from forming close and strong friendships among themselves, according to Ismail (2010) points out that school bullying is a serious problem that has negative effects on both the bully and the victim, as well as on the entire school environment. Perhaps one of the most important and dangerous behavioral problems is school bullying, which is considered a form of aggressive behavior directed by an individual toward others, whether physical, verbal, psychological, or social. With the technological development of means of communication and interaction, which

has made the world a small village, a new type of bullying has emerged through these multiple media, namely cyberbullying.

The concept of cyberbullying refers to unwanted aggressive behavior carried out electronically by a bully using modern technologies such as mobile phones, computers, text messages, applications, social media, forums, and others against another party with the aim of harming them physically, emotionally, socially, or psychologically.

Cyberbullying is considered an indirect form of traditional school bullying, as the bully does not harass the victim through face-to-face interaction but bullies them through a screen. Like traditional bullying, cyberbullying is public and witnessed by peers, acquaintances, and strangers; for these reasons, the two are linked.

When you are exposed to digital bullying, you may begin to feel shame, tension, anxiety, or self-doubt about what people say or think about you. This can lead to withdrawal from friends and family, negative thoughts, self-talk, or feelings of guilt about things you did or did not do that led to negative judgments. It is also common to feel lonely, overwhelmed, or to have frequent headaches, nausea, or stomachaches.

Bullies often resort to hiding their digital identity and using (anonymous member) or pseudonyms so that they cannot be identified, making it easier for them to bully their victims. Based on the above, we have attempted in this research paper to identify the relationship between digital identity and the phenomenon of cyberbullying by posing the following general questions:

1. Is there a correlation between the anonymous digital identity of the bully and the phenomenon of cyberbullying?

The following sub-questions branch off from the general question:

2. Sub-questions:

- What are the most prominent manifestations of cyberbullying on social media from the perspective of secondary school students?

- Are there differences in exposure to cyberbullying among middle school students, attributable to gender (male/female) and academic level?

3. General hypothesis:

- There is a correlation between the digital identity of the bully and the phenomenon of cyberbullying.

4. Sub-hypotheses:

- The most prevalent forms of cyberbullying on social media, from the perspective of secondary school students, are sexual bullying and threats.

- There are no differences in exposure to cyberbullying among middle school students based on gender (male/female) or academic level.

5. Study terms:

5.1. Cyberbullying: Smith defined cyberbullying as: "A deliberate act of aggression committed by an individual or group of individuals using electronic means of communication repeatedly against a victim, rendering them unable to defend themselves" (Smith & All, 2008, p. 376), while Amina Al-Shanawi defines it as any behavior carried out by an individual or group of individuals using modern means of communication and information technology and its various applications, with the aim of deliberately and repeatedly harming an individual or group of individuals (Amina, 2014, p. 5).

5.2. Digital identity: A digital identity is defined as a persona created by a human user that acts as a link between the natural person and the virtual persona of users. According to this definition, digital identity is the characteristics and specifications that a natural person presents to others online, so that communication takes place between three parties rather than two: the natural person, the digital identity, and other people (Boutet & Diéye, 2013, p. 46).

5.3. Digital identity is a tool through which we document our online activity history. It is the product of a process of collecting the characteristics that an individual presents to give an overview of themselves in virtual life and the sum of the opinions and impressions with which others describe that same person. The challenges encountered are no less important than those of real-world identity, as we are an extension of it. The digital realm witnesses the presence of three types of digital identities: (Mutawali, 2016, p. 45)

5.4. Procedural digital identity: Based on the above definitions, a procedural definition of digital identity can be given as everything an individual uses to identify themselves in the digital space, which is represented by the personal data and preferences that the user enters when opening an account on Facebook, which they can change, update, and refresh from time to time. This includes sociodemographic information, name, and photo, which is called declarative identity. In the second stage, identity can be formed through interactions and content sharing, as well as various activities that the user performs on their personal account or page with other users through daily interactions with others, which is called active or calculated identity.

5.5. Secondary education: A stage of education that comes after the middle school stage. The duration of study is four (3) years, culminating in a secondary school baccalaureate (BAC) certificate.

Second: Theoretical framework of the study:

1-Definition of bullying: CRAIGI (2000) defines it as a form of aggression in which there is no balance of power between the bully and the victim. The bully is always stronger than the victim, and bullying can be verbal, physical, or psychological. Barton (2006) defines three criteria for bullying behavior:

-The first criterion is general, deliberate aggression, which may be physical, verbal, electronic, or physical.

-The second criterion is that bullying is repeated over a period of time.

-The third criterion is that it causes a significant imbalance in personal relationships (Barton, 2004, p. 104).

Cyberbullying is defined as: "A form of aggression that relies on the use of modern means of communication and Internet applications (smartphones, laptops, tablets, video cameras, email, web pages, to publish posts or comments that cause distress to the victim, or to promote false news or send electronic messages to harass the victim, with the aim of confusing them and causing them moral and material distress.

2. Forms of cyberbullying:

There are many ways to bully and harm someone online, so it is important to recognize the different forms and types of cyberbullying, the most important of which are:

- Harassment and bullying: This involves sending socially and morally inappropriate messages to someone or making negative and insulting comments on their posts and photos on social media.
- Defamation: This occurs when someone sends false information or spreads false, harmful, and incorrect rumors about another person for the purpose of mocking them and defaming them.
- Identity theft: This occurs when someone hacks into an email or social media account and uses that person's online identity to post and send embarrassing or offensive material.
- Cyberstalking: This is the act of repeatedly sending messages over the internet that include threats of harm, harassment, or intimidation, causing the person to fear for their safety.
- Cyber exclusion: This occurs when others intentionally leave a person out of a group, such as excluding them from gaming sites and other online activities. This is a form of social bullying and is very common.
- Cyber hacking: The bully deposits malicious software, steals passwords, or takes control of the victim's device.
- Cyberbullying through photography: where the bully photographs the victim without their knowledge and posts the photos on social media, or posts edited photos showing the victim in an inappropriate situation with the aim of causing them harm.
- Spying: this is done through applications designed specifically to invade the privacy of others.
- Deception: The bully deceives someone into revealing their secrets and then publishes and sends them to others.

3- Causes of cyberbullying:

There are several reasons that may drive an aggressor to engage in cyberbullying, including:

- Self-affirmation: The bully's desire to prove themselves to others and attract attention, as cyberbullying helps them achieve this goal because what they do online reaches many people.
- Love of control and the bully's desire to control others: Jealousy of others and their successes is also one of the main reasons for the spread of cyberbullying. The bully may be seeking revenge on society because they have been bullied or mistreated in their professional life, at school, or at home, especially in the case of children and oppressed groups. The bully tries to compensate for their shortcomings by resorting to cyberbullying as a means of solving their problems and venting their anger instead of trying to find healthy solutions. It should be noted that cyberbullying does not generally require courage, as it is less dangerous for the bully than traditional bullying, since cyberbullying does not require direct confrontation with the victim, and it allows the bully to hide their identity and easily withdraw when they feel threatened.
- Absence of family attention: Children also choose to bully online because they lack attention and supervision from their parents. As a result, the internet becomes their only source of entertainment and a means of attracting attention. Furthermore, the inability of the bully to see the results of their bullying or the victim's reaction and its direct and indirect effects reduces the bully's empathy and causes them to continue their behavior.
- Dangers of cyberbullying: Cyberbullying has a significant impact on people's daily lives, especially children, adolescents, and adults, because it can happen anywhere and at any time.

Some of the effects of cyberbullying include:

- Feeling lonely and isolated from society, spending a lot of time alone, away from friends and social events.
- Feeling exhausted, constantly anxious, and distressed.
- The victim feeling extremely embarrassed and ashamed, especially when their reputation is damaged and rumors spread about them, particularly since cyberbullying can reach many people and it is difficult to undo what has been published.
- Inability to trust others, especially if the bully is someone the victim trusts. Cyberbullying can lead the victim to suicide and self-harm.
- Low self-esteem and feelings of inadequacy, worthlessness, and insignificance. The effects of cyberbullying on the victim may manifest as weight loss or neglect of personal appearance.
- Noticeable personality changes such as unjustified anger, depression, and crying.
- Delayed academic achievement or loss of employment.
- Constant feelings of fear and insecurity.

Third: Study procedures:

1.Methodological procedures: The study aims to identify the relationship between school bullying and learning difficulties on the one hand, and on the other hand, to identify the most common forms of school bullying and whether there are statistically significant differences between these forms attributable to gender.

Study methodology: The researcher adopted a descriptive approach to investigate the phenomenon and identify the relationship between two variables: cyberbullying and school bullying among middle school students in the city of Saida.

2.Study population: The study population consists of all students enrolled in secondary education for the 2023/2024 school year.

3. Study sample: The study sample consisted of 100 male and female students, selected at random and distributed according to gender and grade level, as shown in Table 1.

Table 1 Distribution of study sample individuals by gender and level

Level	Males	%	Females	%	Total
Year 1 Secondary	10	33.33%	20	66.67%	30
Year 2 Secondary	15	50%	15	50%	30
Year 3 Secondary	16	40%	24	60%	40
Total	41	46%	59	%54	100

We conclude from the previous table that the majority of the study sample was female (54%), while males accounted for (46%).

4-Study tools:

4-1-Cyberbullying behavior questionnaire: The researchers designed a questionnaire on bullying behavior according to Likert's three-point scale (high, medium, low). The psychometric properties of the tool were verified by calculating its stability through reapplication to a sample of 30 male and female students. The questionnaire was then reapplied two weeks after the first application, and the correlation coefficient between the first and second applications was 0.81 (Pearson), which is a high value confirming the stability of the questionnaire. As for validity, it was calculated by extracting the internal validity of the questionnaire by calculating the square root ($\sqrt{}$) of the stability coefficient, which was 0.90. This value confirms that the questionnaire has a high degree of validity, allowing it to be applied in the current study.

Questionnaire correction: The questionnaire was corrected within the average values shown in Table 2.

Table 2 shows the values for questionnaire correction.

Category	Réponse
From 2.34 to 3	High
From 1.67 to 2.33	Medium
From 1 to 1.66	Low

- Statistical tools:

The Statistical Package for the Social Sciences (SPSS) was used, as were the following statistical methods (frequencies and percentages, arithmetic means and standard deviations, calculation of stability using Alpha-Cronbach's and Spearman-Brown's equations and Spearman-Brown and Pearson, and the t-test for independent groups and correlated groups to calculate the significance of differences.

6- Presentation of results:

Presentation of the results of the general hypothesis: There is a correlation between the digital identity of the bully and the phenomenon of cyberbullying among high school students. To test the validity of the hypothesis, Pearson's correlation coefficient was calculated, which yielded the results shown in Table 3.

Table 3 shows the values of Pearson's correlation coefficient for the relationship between the digital identity of the bully and the phenomenon of cyberbullying among secondary school students.

Correlation coefficient (Pearson)	
Cyberbullying	0.68**
Digital identity	

Table 5 shows that the Pearson correlation coefficient was estimated at (0.68**), which is statistically significant at the 0.05 level. This indicates a positive correlation between the digital identity of the bully and the phenomenon of cyberbullying among secondary school students.

-Presentation of the results of the first partial hypothesis: The most prevalent manifestations of cyberbullying on social media, from the perspective of secondary school students, are sexual bullying and threats.

To test the validity of the hypothesis, the arithmetic means and standard deviations of the sample's responses were calculated and ranked according to the questionnaire items, as shown in Table 4.

Table 4 shows the ranking of cyberbullying behavior among secondary school students.

number	Paragraphs	Arithmetic mean	Standard deviation	Degree
6	Posting personal secrets online to embarrass others. Anonymously	2.73	0.39	High
14	Posting photos or videos that offend others on social media.	2.72	0.22	High
11	Spreading rumors and lies about others on fake websites	2.71	0.87	High

9	Sending sexual text messages on mobile phones while hiding my name.	2.68	0.43	High
3	Impersonating others on social media to make them look bad.	2.66	0.30	High
2	Sending indecent messages on social media under pseudonyms.	2.64	0.22	High
1	Mocking others' appearance on social media using a fake account.	2.64	0.19	High
15	Blocking or excluding others from instant messaging programs to harass and bully them.	2.56	0.11	High
12	Deliberately ignoring others' comments on social media or not activating the "like" button.	2.52	0.17	High
8	Creating websites for the purpose of entertaining and laughing at others, while hiding my true identity	2.47	0.40	High
5	Sending any digital material with the aim of damaging others' reputations and distorting their image in the public eye.	2.33	0.55	Medium
13	Sending text messages (SMS) containing mockery and threats and spreading their private information.	2.27	0.50	Medium
7	Enjoyment when I harshly criticize others on Facebook pages.	2.20	0.48	Medium
4	Inciting others to adopt attitudes of hatred and malice and instilling racist ideas.	2.17	0.09	Medium
10	Imposing opinions and beliefs on others through repeated electronic messages.	2.14	0.05	Medium
Total		2.63	0.34	High

Table 3 shows the most prevalent forms of cyberbullying on social media from the perspective of secondary school students. The most prominent of these were: posting personal secrets online to embarrass others anonymously; posting photos or videos that offend others on social media; spreading rumors and lies about others through fake websites, sending sexually explicit text messages via mobile phone while hiding the sender's name, impersonating others on social media to portray them in a bad light, and sending indecent messages via social media. Using pseudonyms and mocking others' appearance on social media using fake accounts, as well as blocking or excluding others from instant messaging programs to harass and bully them, in addition to deliberately ignoring others' comments on social media. Or not activating the special button, as websites are created for entertainment and to laugh at others. By hiding the individual's true identity.

- **Presentation of the results of the second partial hypothesis:** There are no differences in exposure to cyberbullying among secondary school students attributable to gender (male/female) and academic level. To test this hypothesis, a t-test was used on two independent samples to identify the significance of gender differences (male and female). The results are shown in Table 5.

Table 5: Results of the t-test to identify significant differences between genders in cyberbullying behavior among secondary school students.

Gender	Number	Arithmetic mean	Standard deviation	t-value Calculated	Significance level	Significance of differences
Males	17	2,35	0,169	4,237	,0100	Statistical function
Females	43	1,28	0,054			

Table 4 shows that the arithmetic mean for males was 2.35 and the standard deviation was 0.169, while the arithmetic mean for females was 1.28 and the standard deviation was 0.054. It appears that the arithmetic means for the male sample are greater than those for the female sample. Considering the calculated t-value, which is estimated at 2.374 with a significance level of 0.010, which is less than the significance level (0.05), this indicates that there are apparent differences between the sexes in terms of the prevalence of cyberbullying behavior. Therefore, we reject the null hypothesis and accept the alternative hypothesis, which states that there are differences between males and females in bullying behavior in favor of males.

Table 6: Results of the one-way analysis of variance (ANOVA) test to identify the significance of differences attributable to grade level in cyberbullying behavior among secondary school students.

groups	Total ranks	Degree of freedom	Average ranks	Value of "F"	Significance level
Between groups	254.914	2	98.312	0.7460	0.5365
In groups	6574.903	97	114.132		

Total	6829.817	99			
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Table 6 shows that the value of F (0.7460) is greater than the significance level (0.05) and therefore there are no statistically significant differences attributable to the variable of educational level in cyberbullying behavior among secondary school students.

Discussion of results:

The study attempted to answer three basic hypotheses:

There is a positive correlation between cyberbullying behavior and the digital identity of the bully. Bullies often resort to hiding their digital identity and using (anonymous members) or pseudonyms so that they cannot be identified, making it easier for them to bully their victims, steal identities, and commit fraud, as cybercriminals use methods such as phishing or malware to steal personal data. If they gain access to the victim's digital identity components, they can either sell the data or use it to commit fraud and also to threaten and bully them. The phenomenon of cyberbullying using digital technologies has taken hold, Previous studies have indicated that student bullies all have low self-esteem, but there is no statistically significant relationship between bullying and poor academic achievement, and that low self-esteem predicts bullying of others. The most prevalent and common forms of cyberbullying on social media, from the perspective of secondary school students, were threats, sexual innuendo, posting personal secrets online to embarrass others via anonymous accounts, posting offensive photos or videos of others, spreading rumors and lies about others via fake websites, sending sexually explicit text messages via mobile phones while hiding the sender's name, impersonating others on social media to portray them in a bad light, using indecent photos and profiles, Using pseudonyms and mocking others' appearance using fake accounts or blocking and excluding others from instant messaging programs to harass and bully them, and deliberately ignoring others' comments on social media. Or not activating the comments button. Websites are also created for the purpose of entertaining and laughing at others. By hiding the individual's true identity, Ahmed Rashid (2007, p. 123) believes that the reasons behind bullying behavior are due to attempts to adapt and dominate, in addition to satisfying the needs of this age group and the desire to achieve adaptation to the environment and the self.

The second hypothesis examined gender differences in terms of forms of bullying and which gender was more prone to bullying. The differences were in favor of males, perhaps due to socialization and the physical strength of males. In other words, males engage in cyberbullying behavior toward their peers more than females do. As for the variables of grade level and cyberbullying behavior, no differences were recorded, meaning that cyberbullying behavior occurs at all grade levels and no specific grade level is immune to it.

Recommendations:

- Conduct studies in this field to prevent cyberbullying behavior, given its serious impact on individuals and society.
- Launch awareness campaigns to reduce aggressive behavior.
- Increase guidance and counseling efforts by educational counselors.
- Activate the role of the family, school, and all social institutions to reduce the severity of aggressive behavior, which is widespread in general, whether at school or on the street.

References:

- Amina Ibrahim Al-Shanawi (2014), The Psychometric Validity of the Cyberbullying Scale, Journal of the Research Consulting Service Center, Department of Psychological and Social Studies, Faculty of Arts, Menoufia University, November 2014, pp. 4-5.
- Ahmed, Rashid (2007), School Violence: Between Theory and Practice, Jordan, Al-Waraq Publishing and Distribution.
- Abdulazim, Hassan (2007) "The Psychology of Domestic and School Violence," Alexandria, Dar Al-Jami'a Al-Jadida Publishing House.
- Shatibi Fatima Al-Zahraa (2010) "The Reality of Bullying in Algerian Schools," Middle School Education, Al-Bahith Magazine, Algeria.
- Fouad Eid Al-Jawalda, Mustafa Nouri Laqmish, (2012) "Learning Difficulties: An Applied Perspective," Jordan, 1st edition, Publishing and Distribution House - Ali Musa Al-Subhiin, Muhammad Farhan Qadah, (2013), " Bullying Behavior in Children and Adolescents (Concept, Causes, Treatment), 1st edition: Riyadh, Naif Arab University for Security Sciences.
- Musad, Abu Al-Diyar, (2011), Bullying Among People with Learning Difficulties: As a Phenomenon, Its Causes and Treatment, 2nd edition, Kuwait National Library for Publishing and Distribution.
- Muawiya Abu Ghazal (2009) "Bullying and its relationship to loneliness and social support," Jordanian Journal of Educational Sciences, Vol. 5, No. 2.
- Jaradat Abdul Karim (2008) "Bullying in elementary schools," Jordanian Journal of Educational Sciences.
- Abdel Lawi Saadia (2012) "Behavioral and Psychological Problems of First, Second, and Third Year Students," Master's Thesis, Algeria, University of Tizi Ouzou.