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Title of research article

# The Influence of Cyberbullying on the Development of Self-Esteem Among University Students: A Field Study on a Sample from the Faculty of Social and Human Sciences at Abdelhamid Ibn Badis University, Mostaganem, During the Academic Year 2024/2025

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**Keywords** Cyberbullying, Self-Esteem, University Students, Digital Media, Psychological Well-Being, Social Interaction, Descriptive-Analytical Study, Regression Analysis

**Abstract**

The rapid expansion of digital communication platforms has transformed social interaction among university students, creating both opportunities for engagement and risks associated with maladaptive behaviors such as cyberbullying. This study investigates the prevalence of cyberbullying and its impact on self-esteem among university students at Abdelhamid Ben Badis University, Mostaganem. Employing a descriptive-analytical approach, the study utilized two standardized instruments: the Cyberbullying Scale (Hussein, 2019) and the Self-Esteem Scale (Bin Al-Sayeh, 2023). The sample consisted of 150 male and female students from the Faculty of Humanities and Social Sciences. Psychometric analyses confirmed the reliability and validity of both scales, with Cronbach's alpha coefficients of 0.749 for the Cyberbullying Scale and 0.806 for the Self-Esteem Scale, and Guttman split-half coefficients of 0.85 and 0.79, respectively.

The results indicate a high prevalence of cyberbullying among university students, with the mean score significantly exceeding the hypothetical average ($M = 97.40$, $SD = 19.61$, $t(149) = 18.36$, $p < 0.01$). Students also exhibited high levels of self-esteem ($M = 64.67$, $SD = 10.20$, $t(149) = 12.81$, $p < 0.01$). Regression analysis revealed a statistically significant negative relationship between cyberbullying and self-esteem ($\beta = -0.614$, $p < 0.001$, $R^2 = 0.102$), indicating that increased cyberbullying predicts lower self-esteem among university students. These findings highlight that cyberbullying not only persists in higher education settings but also poses a significant threat to students' psychological well-being, particularly in the context of self-perception, social confidence, and academic motivation.

The study underscores the importance of developing preventive strategies, including institutional regulations on digital behavior, awareness campaigns, and psychological support programs aimed at enhancing self-esteem and mitigating the harmful effects of cyberbullying. Moreover, it contributes to the growing body of research on cyberpsychology and provides empirical evidence to inform policy-making in educational institutions.

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## Introduction

In recent decades, the world has witnessed an unprecedented technological and communications revolution that has profoundly transformed human lifestyles and reshaped the ways in which individuals and societies interact. The rapid development of information and communication technologies has made the internet and smartphones indispensable tools for knowledge transfer, social networking, and cultural exchange. Within this context, social media platforms have emerged as one of the most prominent outcomes of this digital revolution. These platforms have not only helped bridge geographical and cultural divides but have also posed significant challenges, such as the erosion of cultural identity, the rapid spread of misinformation, and concerns over social values and digital security. Furthermore, the ways individuals engage with these technologies vary considerably—from balanced and constructive use to excessive or harmful misuse—which has significant repercussions for social life (Intesar Muhammad, 2020).

Amidst this massive and accelerating digital transformation, social media platforms such as Facebook, Twitter, Instagram, and others have become double-edged tools. On the one hand, they facilitate social interaction, knowledge dissemination, and cultural dialogue; on the other hand, they have fostered new and troubling forms of deviant behavior. Among the most concerning is **cyberbullying**, defined as the deliberate and repeated use of digital technology to inflict psychological, social, or even economic harm on others. Manifestations of cyberbullying include rumor spreading, threats, intimidation, harassment, and various forms of exploitation—whether sexual, material, or intellectual. Previous studies confirm that while the internet and mobile technologies offer novel opportunities for communication, they also create fertile ground for such harmful interactions (Tokunaga, 2010; Palermiti et al., 2017).

Cyberbullying can be understood as an extension of traditional bullying behaviors, but with an alarming shift: the use of digital technologies amplifies and accelerates the scope of harm. This phenomenon has become increasingly widespread due to the proliferation of smartphones, which integrate internet connectivity and instant multimedia sharing. These features make it easier for offensive content to be disseminated quickly and widely, thereby intensifying the destructive effects of cyberbullying. Research has shown that cyberbullying can lead to severe psychological consequences, including depression, anxiety, and social isolation, and in some cases, it may even be linked to extremist behavior (Al-Ammar, 2016; Bastug & Kircaburun, 2016; Lehto & Uusitalo, 2016).

The digital environment further complicates this issue by enabling anonymity, which emboldens perpetrators to engage in aggressive behavior without immediate accountability. Moreover, harmful digital content can spread rapidly and persist indefinitely, exacerbating victims' distress. Juvonen and Gross (2008) and Della Cioppa et al. (2015) highlight that this dynamic increases the reach and permanence of cyberbullying, magnifying its psychological and social impact. Indeed, victims of cyberbullying are at heightened risk of developing depression, anxiety disorders, and even substance abuse (Takizawa et al., 2014; Palermiti et al., 2017). Ybarra (2004) also found that such victims often experience aggression, social withdrawal, loneliness, and diminished self-esteem, particularly when they engage in deceptive online self-presentation.

Bullying in all its forms represents a serious behavioral and social problem with profound implications for individuals' well-being. Among university students, the consequences of cyberbullying are especially concerning. Victims often experience fear, withdrawal, social isolation, and declining academic performance. Moreover, research has consistently identified low self-esteem as both a predictor and a consequence of exposure to cyberbullying (Egan & Perry, 1998). Conversely, high self-esteem is associated with resilience, better coping strategies, and stronger academic adjustment.

Given the central role of self-esteem in shaping personality development, social relationships, and academic success, investigating its relationship with cyberbullying is crucial. University students represent one of the groups most vulnerable to this phenomenon due to their heavy reliance on digital technologies and their constant presence in online environments. Consequently, exploring the impact of cyberbullying on students' self-esteem provides valuable insights into both the psychological costs of the digital age and the need for preventive and intervention strategies within higher education contexts.

## Literature Review and Theoretical Framework

### Self-Esteem: Definitions and Perspectives

Al-Baqour (2002) defined self-esteem as *"the judgments that an individual makes about himself compared to others, reflecting his perceived abilities and skills to perform a specific task or achieve success"* (Alkhasawneh & Others, 2022, p. 1931). Similarly, Brenden (1995) conceptualized self-esteem as a fundamental human need that profoundly influences multiple aspects of human existence, including conscious living, self-acceptance, personal responsibility, self-assertion, meaningful living, and the preservation of personal integrity (Adawi & El-Sherbini, 2021, p. 385).

Considering self-esteem as a central factor shaping human behavior, Hayawi and Ben Salem (2022) argue that an individual's self-perceptions and self-judgments directly determine their positive or negative motivations to engage in adaptive or maladaptive social behaviors (p. 661). Kafawin (2003) further explained that low self-esteem often results from an individual's need for external validation. Conversely, when individuals are aware of their strengths and weaknesses, they can set meaningful goals and foster motivation. Self-confidence and the expectation of success thus play crucial roles in strengthening self-esteem (Kafawin, 2017, p. 45).

Rosenberg (1979), one of the leading scholars on the subject, defined self-esteem as the evaluation an individual typically makes of themselves, involving an orientation toward approval or disapproval. High self-esteem reflects feelings of competence, self-worth, and self-respect, while low self-esteem is associated with self-rejection and diminished confidence (Ali, 2021, p. 149).

From an educational perspective, self-esteem is considered a key psychological variable, particularly at the university level. It is among the most influential determinants of the student learning experience and academic achievement. Researchers agree that the acquisition of various skills is more effective when coupled with positive self-esteem, which plays a central role in guiding students' behavior and achievement (Qadi, 2019, p. 19).

### Self-Esteem and Demographic Variables

Numerous studies have examined self-esteem across demographic factors. For example, Qadi (2019) and Miri (2023) reported no significant differences in self-esteem based on gender. In contrast, Bin Al-Sayeh (2023) found higher self-esteem levels among males. Furthermore, Kafawin (2017) and Ali (2021) demonstrated that self-esteem differs significantly by academic specialization, suggesting that disciplinary contexts may influence self-perceptions.

### Cyberbullying and Self-Esteem

Recent research has highlighted a negative association between cyberbullying and self-esteem. Victims of cyberbullying often report diminished self-esteem (Chang et al., 2013; Cénat et al., 2014). Although the causal direction remains contested, some scholars argue that persistent online harassment may lead to decreased self-esteem, which, in turn, can have profound consequences for young people's well-being, including heightened vulnerability to depression, psychological maladjustment, and even suicidal ideation (Palermiti et al., 2017).

For instance, Mohamed et al. (2023) reported that 24.8% of adolescent students experienced social isolation, 29.4% were victims of cyberbullying, 37.3% reported low self-esteem, and 17.1% expressed suicidal thoughts. Their findings confirmed an inverse relationship between cyberbullying exposure and self-esteem. Similarly, Patchin and Hinduja (2010), Hussein and Mahmoud (2021), and Al-Nuaimi et al. (2023) found that both bullies and victims exhibited lower levels of self-esteem, highlighting the bidirectional impact of cyberbullying. By contrast, Ahmed (2023) reported no statistically significant correlation between the two variables, suggesting that contextual or cultural differences may play a role.

## Purpose of the Study

Given the widespread use of digital technologies among university students, this study aims to investigate the impact of cyberbullying on students' self-esteem, as this group is particularly vulnerable to the negative consequences of online aggression. The study seeks to answer the following research questions:

1. What is the level of cyberbullying among university students?
2. What is the level of self-esteem among university students?
3. Does cyberbullying affect self-esteem among university students?

## Hypotheses

- The level of cyberbullying among university students is high.
- The level of self-esteem among university students is high.
- Cyberbullying has a significant impact on the self-esteem of university students.

## Objectives of the Study

- To determine the prevalence of cyberbullying among university students.
- To assess the level of self-esteem among university students.
- To examine the impact of cyberbullying on students' self-esteem.

## Significance of the Study

The importance of this study stems from both the relevance of its topic and the significance of its target population. Cyberbullying is a contemporary and pressing issue that threatens the mental health of students. In the Arab and Algerian context, research on cyberbullying remains relatively new, particularly in relation to its effects on university students. By exploring this issue, the study provides insights into how digital misuse affects self-esteem, academic achievement, and overall psychological well-being. The findings are expected to contribute to preventive and therapeutic intervention programs, as well as to the development of strategies aimed at reducing the prevalence of cyberbullying and mitigating its harmful effects.

## Theoretical Framework

### *Cyberbullying*

Patchin and Hinduja (2010) define cyberbullying as behaviors involving harassment, intimidation, or threats delivered through digital means, such as sending or posting humiliating or threatening texts, images, or videos online without consent. Similarly, Smith et al. (2008) describe cyberbullying as *"an intentional act of aggression by a group or individual, using electronic forms of communication, repeatedly and persistently against a victim who cannot easily defend themselves"* (p. 376).

## Definition of Cyberbullying

According to Denmark (2014), cyberbullying is defined as the deliberate and hostile use of communication technologies to inflict harm on another person. It is regarded as a unique phenomenon of the twenty-first century, characterized by the use of cyberspace to transmit aggressive messages or content directed toward others. Billy Belsey, who first coined the term *cyberbullying*, defined it as the use of information and communication technologies to engage in intentional, repeated, and hostile behaviors—either by an individual or a group—aimed at harming others (Ramadan, 2019, cited in Yoob, 2023, p. 34).

## Methods of Cyberbullying

Cyberbullying is perpetrated through a wide range of digital channels, as aggressors exploit modern communication platforms to inflict harm. These methods include the use of social media, text messages, emails, phone calls, fake web links, and chat or messaging applications. Smith et al. (2008) emphasized that these platforms allow bullies to expand the scope of psychological and social harm, facilitated by their rapid reach and the possibility of anonymity. Hinduja and Patchin (2009) further argue that the repetitive and deliberate nature of cyberbullying intensifies its effects, rendering it more severe than traditional forms of bullying, particularly because the victim often finds it difficult to defend themselves in digital environments.

## Forms of Cyberbullying

Cyberbullying manifests in diverse forms, varying according to the methods used and the intent of the aggressor. Direct forms may include technical harm (e.g., sending viruses or changing passwords), verbal abuse (e.g., threats and insults), nonverbal abuse (e.g., posting disturbing images), or social exclusion (e.g., removing the victim from virtual groups). Indirect forms include more concealed practices such as hacking devices, stealing personal information, impersonation using false identities, and spreading defamatory content designed to damage reputations (Yoob, 2023).

Building on these distinctions, Beran and Li (2007), Willard (2007), and Ben Arabiya (2023) classified cyberbullying into several key categories:

- **Cyber Anger:** The transmission of hostile or offensive messages to a victim, either within group settings or through private digital communication.
- **Cyber Harassment:** Persistent and repeated sending of abusive or intimidating messages via email or messaging platforms.
- **Cyber Dialogue:** A severe form of harassment that includes explicit threats of harm, excessive verbal abuse, or defamatory online discussions.
- **Cyber Denigration:** The dissemination of harmful, false, or derogatory content about a victim to others, often in the form of posts or public statements.
- **Impersonation:** Assuming the victim's identity in order to publish damaging content or to mislead others into perceiving the victim negatively.
- **Exposure and Privacy Violation:** Unauthorized sharing of personal messages, private images, or sensitive information, whether digitally or physically.
- **Exclusion:** Intentional ostracism of the victim from online communities or platforms, often coupled with efforts to encourage others to exclude the individual, thereby amplifying their psychological distress.

## Statistics on Cyberbullying

Statistical evidence underscores the growing prevalence of cyberbullying globally. Patchin (2016), reporting on findings from the Cyberbullying Research Center, revealed that:

- 18% of children and adolescents worldwide had experienced cyberbullying.
- 70% of internet users globally reported having encountered online abuse at least once.
- Only 15% of students admitted to being victims of cyberbullying.

- Approximately 10% of victims never reported their experiences to an adult.
- 64% of cyberbullying victims stated that it negatively impacted their academic performance and fostered fear and insecurity.
- 79% of parents reported that their children had received physical threats while engaged in online gaming (Yoob, 2023, p. 34).

More recent data (2018–2022) reflect an upward trend in cyberbullying. Among boys, the proportion engaging in cyberbullying increased from 11% to 14%, while among girls, it rose from 7% to 9%. Reports of victimization also grew, from 12% to 15% among boys and from 13% to 16% among girls. This escalation coincides with the increasing amount of time adolescents spend online. As the World Health Organization (2024) stresses, these findings highlight the urgent necessity for multi-stakeholder interventions involving educators, parents, policymakers, and community leaders to promote digital literacy, enhance online safety, and mitigate the harmful effects of cyberbullying.

## Self-Esteem

Al-Anzi (2019) defines self-esteem as an individual's general evaluative orientation, characterized by relative stability and encompassing the person's judgment of themselves—whether positive or negative—based on both internal and external determinants. In a similar vein, Baccini and Ramdhani (2017) describe it as an affective process through which the individual evaluates the self-image shaped by beliefs, values, emotions, thoughts, and attitudes. This process includes acceptance or rejection of oneself, the perception of worthiness and merit, and the sense of competence in social interactions.

Hewitt (2009) and Smith and Mackie (2007) emphasize that self-esteem represents the overall emotional evaluation that an individual attributes to the self. It reflects cognitive assessments as well as affective experiences, such as feelings of pride or shame. In this regard, self-esteem may be viewed as the positive or negative judgments directed toward the self (Adawi & El-Sherbini, 2021). Cooper Smith adds that self-esteem consists of a set of attitudes and beliefs recalled by an individual when confronting the world, encompassing beliefs about the likelihood of success, the potential for failure, and the amount of effort required (Abo-Ghali, 2012).

Scholars have addressed self-esteem from multiple perspectives. One approach considers it as an evaluation, whereby individuals and others form judgments about the meanings attached to the self. These meanings manifest across dimensions such as physical self, identity, self-concept, and self-perception, and are reflected in communicative behaviors (Shaqfeh, 2009). Another perspective views self-esteem as a need. Maslow distinguishes between the need for self-appreciation—associated with achievement, efficiency, self-confidence, and reliability—and the need for prestige, recognition, and admiration from others (Ahmed, 2010).

Self-esteem has also been conceptualized as a condition. Kristen and colleagues (1999) describe it as an overall self-perception involving evaluative judgments of both positive and negative dimensions, with positive self-appreciation linked to psychological well-being and negative judgment associated with depressive tendencies (Ibn Al-Sayeh, 2023). From yet another perspective, self-esteem is seen as a tendency, reflecting positive feelings toward the self, such as competence, self-admiration, strength, and the perception of being worthy of love (Douara, 2023). It may also be understood as an expectation shaped by social feedback. Adler highlights the connection between inferiority feelings and low self-esteem, while Allport underscores the relationship between perseverance, strength, and self-esteem. Existential approaches, such as those of Rollo May, further associate it with the fundamental question of existence itself ("to be or not to be") (Richard & Scolt, 1989).

Several theoretical models have provided deeper insight into the dynamics of self-esteem. Carl Rogers' self-theory (1959), as explained by Al-Zyoud (2008), situates the self at the center of personality, distinguishing between the actual self and the ideal self. Psychological adjustment occurs when harmony exists between these two aspects, whereas incongruence results in maladjustment and emotional difficulties (Al-Saeedi, 2021). Rosenberg (1965), as noted by Al-Ma'aytah (2008), considers self-esteem as a general orientation toward the

self, influenced by socialization processes, family, schooling, and peer relationships. His view emphasizes the comprehensive nature of self-esteem as a global evaluation rather than a situational or fragmented judgment.

Ziller's theoretical perspective (1973) underscores the role of social interaction and comparison in shaping self-esteem. He argues that self-esteem acts as a mediator between the individual and the social environment, exerting either positive or negative effects on adjustment. Moreover, self-esteem is seen as developing within the framework of social reality, where changes in one's environment directly affect self-evaluation (Jaballah, 2002; Miri, 2023). Coopersmith's contributions (1976), discussed by Al-Hamshari (2013), distinguish between genuine self-esteem, reflecting authentic self-worth, and defensive self-esteem, which masks an underlying lack of self-worth. He identifies achievements, values, aspirations, and defenses as key determinants of self-esteem, and highlights the importance of parental practices such as empowerment, encouragement of positive behavior, and respect for autonomy in fostering healthy self-esteem (Al-Nuaimi & Abu Eish, 2023).

Previous research further illustrates the link between self-esteem and cyberbullying. Patchin and Hinduja (2010), in a study of 1,963 American students, found a negative correlation between cyberbullying and self-esteem. Both perpetrators and victims reported lower self-esteem compared to students not involved in bullying (Dahmani, 2023). Al-Kafawin (2017) examined the level of self-esteem among students at Tafila Technical University and found generally high levels, with notable differences in favor of female students, students in scientific disciplines, and those from rural areas. The study recommended further exploration of self-esteem in relation to other variables across educational contexts. Elizabeth (2018), in research on female students' use of social media, revealed that victims of cyberbullying often exhibited isolation, loss of confidence, and withdrawal from online interactions. The study highlighted both verbal and physical dimensions of bullying and underscored the mitigating role of family and school interventions in reducing its prevalence (Ada, 2023).

Basyouni and Al-Harbi (2020) conducted a study examining the relationship between cyberbullying and psychological loneliness among female students of the College of Education at Umm Al-Qura University. The study aimed to assess the prevalence of cyberbullying among female university students and its association with feelings of psychological loneliness. The sample comprised 133 female students representing various academic majors within the college. The findings revealed a statistically significant correlation between psychological loneliness and engagement in cyberbullying behaviors at the 0.05 significance level. Additionally, the mean scores on the cyberbullying scale ranged from medium to high, indicating that the scale effectively captured the reality of cyberbullying behaviors among female students. The psychological loneliness scale also yielded medium-level means, suggesting that participants experienced moderate psychological loneliness.

Hussein, Younis, and Mahmoud (2021) investigated the relationship between school bullying and self-esteem among pupils in the first cycle of basic education. The study included a sample of 210 male and female students, aged 9–12 years, from Al-Farouq Omar Institute. Data were collected using two scales measuring bullying behaviors and self-esteem. Statistical analysis demonstrated a significant negative correlation at the 0.01 level between bullying behavior and self-esteem. Gender differences were observed, with males exhibiting higher scores in total bullying, physical bullying, and property violations, whereas no significant gender differences were found in social, verbal, or psychological bullying. Female students displayed higher self-esteem levels than their male counterparts. Moreover, self-esteem scores were significant predictors of bullying behavior.

Ahmed Dahmani Abdelkader (2023) explored the relationship between cyberbullying and self-esteem among graduate students at the École Normale Supérieure in Bouzaréah, Algeria. The study sampled 52 graduate students from the English and History & Geography departments, representing both middle and secondary education specializations. Employing a descriptive methodology with cyberbullying and self-esteem scales, the results indicated no statistically significant correlation between cyberbullying and self-esteem. There were no gender differences in cyberbullying levels; however, significant differences emerged based on specialization profiles.

Douara Ahmed (2023) examined the relationship between self-esteem and learning motivation among Social Sciences students at the University of Tiaret, Algeria. The sample included 240 students from the first and third

academic years of the Social Sciences Department during the 2020–2021 academic year. Using both a self-esteem scale and a learning motivation scale, the study found that students exhibited above-average self-esteem. A positive correlation was observed between self-esteem and learning motivation. Additionally, female students displayed higher self-esteem than males, and first-year students showed higher self-esteem than third-year students. The study recommended further research to investigate the nature of the relationship between self-esteem and learning motivation.

Al-Nuaimi, Safiya Ahmed, and Abu Eish, Basina Rachad (2023) conducted research on cyberbullying and self-esteem among female students of the College of Arts at Taif University. Utilizing a descriptive correlational design, the study sampled 200 female students randomly selected from the college. Data were collected using a cyberbullying scale and the self-esteem scale developed by Al-Nuaimat (2015). The findings demonstrated a significant negative correlation between cyberbullying and self-esteem, with students exhibiting high self-esteem overall. Cyber-attacks were the most common form of bullying, followed by cyber-harassment, cyber-exclusion, and cyber-stalking. No significant differences were found in cyberbullying levels according to academic specialization.

Al-Shammari (2023) investigated university students' awareness of the concept of cyberbullying. Using a descriptive approach, the study employed a questionnaire administered to a random sample of 200 undergraduate students at the University of Hail. Results indicated a high level of awareness regarding cyberbullying. Significant differences were observed based on college specialization, favoring students in scientific disciplines, while no significant differences were attributed to age.

Ben Al-Sayah (2024) examined self-esteem among students at Laghouat University and its variation according to gender. The study applied a self-esteem scale to a randomly selected sample of 540 students. Findings revealed generally high self-esteem among participants, with male students displaying higher levels than females.

Al-Kabir (2024) studied self-esteem among students of the Faculty of Education at Sabha University – N'Djamena, considering demographic variables such as gender, academic specialization, parental education, family income, and urban background. Using a descriptive correlational method, the study sampled 342 students and employed a 50-item self-esteem questionnaire. Results indicated low overall self-esteem among participants, with higher levels observed in females. No statistically significant differences were found in self-esteem related to specialization, parental education, income, or urban/rural background.

**Commentary on Previous Studies.** Previous research has examined cyberbullying in relation to various psychological and social variables, including loneliness and awareness (Basyouni & Al-Harbi, 2020; Al-Shammari, 2023), as well as its manifestations among university students (Elizabeth, 2018). Most of these studies employed descriptive methodologies, confirming that cyberbullying is prevalent at moderate to high levels and has negative psychological and social consequences. Sample sizes across these studies varied, reflecting differences in research scope and population.

Regarding self-esteem, several studies investigated its level among students, highlighting differences based on gender or academic specialization (Al-Kafawin, 2017; Bin Al-Saaih, 2024; Al-Kabir, 2024; Douara, 2023). These studies generally reported high levels of self-esteem, with differences favoring female students or certain academic majors. Sample sizes in these studies ranged from medium to large.

Research exploring the relationship between cyberbullying and self-esteem (Patchin & Hinduja, 2010; Al-Nuaimi & Abu Eish, 2023; Hussein et al., 2021) typically employed correlational designs and mostly confirmed a negative relationship, indicating that increased engagement in cyberbullying is associated with lower self-esteem. However, Dahmani's (2023) study found no significant correlation, which may be attributable to the relatively small sample size compared to other larger and more diverse studies.

## Practical Aspects of the Current Study

**Study Context and Limitations.** The study was conducted at Abdelhamid Ben Badis University, Mostaganem, within the Faculty of Humanities and Social Sciences, during the 2024/2025 academic year. The study's findings are therefore limited to this specific population and context.

**Methodological Procedures.** The research adopted a descriptive-analytical approach, which was considered the most appropriate for addressing the study objectives. The researchers utilized relevant instruments to collect, analyze, and interpret the necessary data effectively.

**Study Instruments.** Two primary scales were used to address the research questions: the Cyberbullying Scale and the Self-Esteem Scale.

The **Cyberbullying Scale**, developed by Ramadan Ashour Hussein (2019), consists of four dimensions with response options ranging from "Always" (3), "Sometimes" (2), to "Never" (1). The total scale score ranges from 34 to 102.

The **Self-Esteem Scale**, prepared by Ben Sayeh Masouda (2023), also comprises four dimensions. Responses are scored on a three-point scale: "Fully applicable" (3), "Sometimes applicable" (2), and "Never applicable" (1). Negative items are reverse-scored. Total scores range from 27 to 81.

**Study Sample.** The study sample included 150 male and female students from the Faculty of Social and Human Sciences at Abdelhamid Ben Badis University in Mostaganem. The distribution by gender is presented below:

| Gender | Number | Percentage |
|---|---|---|
| Male | 69 | 46% |
| Female | 81 | 54% |
| Total | 150 | 100% |

The female category constituted the majority of the sample (54%), while males accounted for 46%.

**Psychometric Properties of the Cyberbullying Scale**

*Construct Validity (Internal Consistency).* The internal consistency between the scale dimensions and the total score was examined. Correlation coefficients are shown below:

| Dimension | Correlation with Total Score |
|---|---|
| Cyber Harassment | 0.860 |
| Cyber Defamation | 0.823 |
| Cyber Impersonation | 0.657 |
| Cyberstalking | 0.624 |

All correlation coefficients were positive and statistically significant at the 0.01 level, indicating that each dimension is consistent with the total score of the scale.

*Discriminant Validity (Extreme Group Method).* To assess the scale's discriminant validity, the extreme group comparison method was applied. Participants were divided into upper and lower groups to evaluate the scale's ability to differentiate between high and low levels of cyberbullying.

| Variable | N (Lower) | Mean | SD | N (Upper) | Mean | SD | t-value | p-value |
|---|---|---|---|---|---|---|---|---|
| Cyberbullying | 10 | 64.40 | 4.50 | 10 | 82.80 | 1.81 | -11.989 | 0.000 |

The upper group's mean score (82.80) was significantly higher than the lower group's mean (64.40). The t-value of -11.989 and significance level of 0.000 ($p < 0.01$) indicate statistically significant differences between the groups, confirming the scale's discriminant validity and its ability to distinguish between varying levels of cyberbullying.

### Scale Reliability and Psychometric Properties

**Cyberbullying Scale Reliability.** The reliability of the Cyberbullying Scale was assessed using two methods:

**Cronbach's Alpha Coefficient.** The internal consistency of the scale was evaluated using Cronbach's alpha. The results are presented in Table 4.

**Table 4. Cronbach's Alpha Reliability Coefficient for the Cyberbullying Scale**

| Alpha Cronbach's | Number of Items | Dimensions |
|---|---|---|
| 0.749 | 34 | Cyberbullying |

As shown in Table 4, the stability coefficient reached 0.749, indicating an acceptable level of reliability. Therefore, the Cyberbullying Scale is considered reliable for application in the study.

**Split-Half Method.** The split-half method was also employed to assess reliability by calculating the correlation between the first and second halves of the instrument. Because the variance between the two halves was not equal, the correlation was corrected using the Guttman split-half reliability coefficient. The results are summarized in Table 5.

**Table 5. Reliability Coefficient Using the Split-Half Method**

| Correction Factor | Reliability Coefficient | Scale |
|---|---|---|
| Guttman Split | After Correction | Cyberbullying |
| 0.81 | 0.85 | |

Table 5 indicates that the reliability coefficient was 0.81 before correction and increased to 0.85 after applying the Guttman correction, confirming high reliability suitable for research purposes.

### Self-Esteem Scale Psychometric Properties

**Construct Validity (Internal Consistency).** The internal consistency of the Self-Esteem Scale was examined by calculating the correlation coefficients between each dimension and the total scale score, as shown in Table 6.

**Table 6. Correlation Coefficients between Dimensions and Total Score of the Self-Esteem Scale**

| Consistency | Dimensions |
|---|---|
| 0.695 | Performance Goals |
| 0.859 | Psychological |
| 0.780 | Social |
| 0.711 | Physical Appearance |

All correlation coefficients were positive and statistically significant at the 0.01 level, indicating that each dimension is consistent with the overall scale score.

**Discriminant Validity (Extreme Group Method).** To assess discriminant validity, the extreme group method was applied by comparing the scores of participants in the upper and lower extremes of the scale. The results are presented in Table 7.

**Table 7. Differences Between Upper and Lower Group Means of the Self-Esteem Scale**

| Variable | N (Lower) | Mean | SD | N (Upper) | Mean | SD | t-value | p-value |
|---|---|---|---|---|---|---|---|---|
| Self-Esteem | 10 | 50.80 | 4.31535 | 10 | 69.20 | 3.01109 | -11.058 | 0.000 |

As shown in Table 7, the upper group had a mean score of 69.20 (SD = 3.01109), while the lower group had a mean of 50.80 (SD = 4.31535). The t-value of -11.058 with a significance level of 0.000 ($p < 0.01$) indicates statistically significant differences between the groups, confirming that the Self-Esteem Scale effectively discriminates between high and low levels of self-esteem.

**Reliability of the Self-Esteem Scale**

**Cronbach's Alpha Coefficient.** The internal consistency of the Self-Esteem Scale was further evaluated using Cronbach's alpha. The results are shown in Table 8.

**Table 8. Cronbach's Alpha Reliability Coefficient for the Self-Esteem Scale**

| Alpha Cronbach's | Number of Items | Dimensions |
|---|---|---|
| 0.806 | 27 | Self-Esteem |

As indicated in Table 8, the reliability coefficient reached 0.806, demonstrating that the Self-Esteem Scale possesses satisfactory stability and is suitable for application in the current study.

**Split-Half Reliability of the Self-Esteem Scale**

The reliability of the Self-Esteem Scale was further assessed using the split-half method. The instrument was divided into two halves, and the correlation between them was calculated. Due to unequal variance between the halves, the Guttman split-half reliability coefficient was applied for correction. The results are summarized in Table 9.

**Table 9. Reliability Coefficient of the Self-Esteem Scale Using the Split-Half Method**

| Correction Factor | Reliability Coefficient | Scale |
|---|---|---|
| Guttman Split | After Correction | Self-Esteem |
| 0.71 | 0.79 | |

As indicated in Table 9, the reliability coefficient reached 0.71 before correction and 0.79 after applying the Guttman correction, demonstrating adequate reliability for research purposes.

**Presentation of Hypotheses**

**Hypothesis 1: The Level of Cyberbullying Among University Students is High**

To test this hypothesis, the arithmetic mean, standard deviation, hypothetical mean, and a one-sample t-test were calculated. The results are presented in Table 10.

**Table 10. One-Sample t-Test for Cyberbullying Scale Scores**

| Relative Weight | Significance Level | t-value | df | Hypothetical Mean | Deviation | Mean | Sample | Variable |
|---|---|---|---|---|---|---|---|---|
| 95% | 0.01 | 18.360 | 149 | 68 | 19.6161 | 97.40 | 150 | Cyberbullying |

The results indicate that the arithmetic mean of cyberbullying scores among the 150 participants was 97.40 (SD = 19.61), which is significantly higher than the hypothetical mean of 68 ($t = 18.360$, $p < 0.01$). These findings confirm that the level of cyberbullying among university students is high.

The elevated level of cyberbullying may be influenced by cultural, social, and psychological factors. Culturally, the finding reflects limited awareness of ethical digital practices and a deficiency in digital media literacy, making aggressive behavior more acceptable online. Socially, weak institutional controls, peer pressure, and the pursuit of self-affirmation within student groups may contribute to cyberbullying behaviors. Psychologically, feelings of anxiety, frustration, or low self-esteem may prompt some students to engage in cyberbullying as a compensatory mechanism. These results are consistent with prior studies (Elizabeth, 2018; Al-Shammari, 2023), though they differ from findings by Al-Basyouni and Al-Harbi (2020), who reported moderate or low levels of cyberbullying.

### Hypothesis 2: University Students Have a High Level of Self-Esteem

To evaluate this hypothesis, the arithmetic mean, standard deviation, hypothetical mean, and a one-sample t-test were calculated. The results are presented in Table 11.

### Table 11. One-Sample t-Test for Self-Esteem Scale Scores

| Relative Weight | Significance Level | t-value | df | Hypothetical Mean | Deviation | Mean | Sample | Variable |
|---|---|---|---|---|---|---|---|---|
| 80% | 0.01 | 12.814 | 149 | 54 | 10.2016 | 64.67 | 150 | Self-Esteem |

The mean score for self-esteem was 64.67 (SD = 10.20), which is significantly higher than the hypothetical mean of 54 ($t = 12.814$, $p < 0.01$). These results confirm that university students in the study possess a high level of self-esteem.

This high self-esteem may be associated with academic engagement, social support, and personal achievement experiences within the university environment, reflecting a generally positive self-perception among students.

The results of the self-esteem scale indicate that the arithmetic mean for the 150 participating students was 64.67, with a standard deviation of 10.20 and a degree of freedom of 149. A comparison with the hypothetical mean of 54 using a one-sample t-test revealed statistically significant differences at $p < 0.01$. The mean score exceeding the hypothetical value confirms a high level of self-esteem among the students, thereby supporting the corresponding hypothesis.

This finding suggests that university students generally possess a positive self-perception and confidence in their academic and social abilities. The university stage represents a critical period for psychological and social development, during which students pursue autonomy and self-assertion in diverse contexts, thereby enhancing their sense of competence and personal worth. The academic environment, with opportunities for social engagement, experiential learning, and achievement, further contributes to the reinforcement of self-esteem. These results align with prior studies, including Kafawin (2017), which emphasized the role of social encouragement, recognition, and appreciation in shaping self-esteem. Similarly, Qadi (2019), Bin Al-Sayeh (2023), Al-Nuaimi and Abu Eish (2023), and Miri (2023) observed that university students' self-esteem tends to rise due to social support and academic successes achieved during this stage. High self-esteem may function as a protective factor, fostering motivation for learning and enhancing students' capacity to manage academic pressures and adapt to future life demands.

The elevated self-esteem observed may also reflect high academic performance, as self-evaluation often correlates with perceived competence and achievement. Conversely, these results differ from studies by Ali (2021), Al-Samadi and Al-Saud (2018), and Al-Kabir (2024), which reported lower levels of self-esteem attributed to parental challenges in meeting children's needs and exposure to negative social comparisons within the university environment.

### Impact of Cyberbullying on Self-Esteem

The third hypothesis examined whether cyberbullying significantly affects university students' self-esteem. To test this hypothesis, simple linear regression analysis was employed to predict self-esteem based on levels of cyberbullying. Prior to conducting the analysis, the assumptions of normality and linearity between the variables were verified.

**Table 12. Simple Regression Analysis of Cyberbullying Predicting Self-Esteem**

| Statistical Significance | t-value | Beta Value | F Significance | F-value | $R^2$ | R | Explanatory Variable | Dependent Variable |
|---|---|---|---|---|---|---|---|---|
| 0.001 | -4.100 | -0.614 | 0.001 | 16.807 | 0.102 | 0.31 | Cyberbullying | Self-Esteem |

The regression analysis indicates that the model is statistically significant ($F = 16.807$, $p < 0.001$). Cyberbullying accounts for approximately 10% of the variance in self-esteem ($R^2 = 0.102$). The negative Beta coefficient (-0.614) demonstrates a significant inverse relationship, indicating that increased levels of cyberbullying are associated with lower self-esteem. The corresponding regression equation can be expressed as:

$$Y = 137.119 - 0.614X$$

These findings confirm that cyberbullying negatively impacts self-esteem among university students. Repeated exposure to aggressive or hostile online behavior may distort self-perception, encourage excessive self-criticism, and amplify feelings of shame and social rejection, particularly when witnessed by a wider audience.

Prior research supports these results. Studies by Patchin and Hinduja (2010), Hussein and Mahmoud (2021), and Al-Nuaimi et al. (2023) similarly identified cyberbullying as a significant factor reducing self-confidence, diminishing self-image, and increasing social withdrawal among victims. Additional evidence from Igan and Perry (1998) and Kara et al. (2025) indicates that persistent cyberbullying correlates with lower self-esteem, heightened anxiety, and depressive symptoms, which in turn affect academic achievement, social adjustment, and future career prospects. However, these results differ from those of Ahmed (2023), which reported no significant relationship between cyberbullying and self-esteem.

## Conclusion

The widespread use of digital media has significantly transformed social interaction patterns. However, excessive engagement in virtual environments has amplified the prevalence of cyberbullying, particularly among university students. The findings of this study highlight the negative effects of cyberbullying on personal, social, psychological, and health dimensions, with low self-esteem emerging as a prominent consequence. Key conclusions from this research include:

- Cyberbullying is prevalent at a high level among university students.
- University students generally exhibit high self-esteem.
- Cyberbullying exerts a negative impact on students' self-esteem.

## Recommendations

- Implement comprehensive regulations governing the ethical use of electronic communication platforms and hold offenders accountable.
- Strengthen legal deterrents and impose stricter penalties for cyberbullying to curb its prevalence in university settings.
- Enhance the role of psychological and social support services in promoting awareness and fostering self-esteem among students.
- Organize periodic educational workshops to raise awareness about cyberbullying and its detrimental effects on individuals and society.

## Findings

1. **High Prevalence of Cyberbullying:** University students reported a high frequency of cyberbullying behaviors, as evidenced by scores significantly above the hypothetical mean. The phenomenon manifests in multiple dimensions, including cyber-harassment, cyber-defamation, cyber-impersonation, and cyberstalking.
2. **High Levels of Self-Esteem:** Students demonstrated generally high levels of self-esteem, reflecting a positive self-concept, confidence in social interactions, and perceived competence in academic and social tasks. Gender and field of study influenced self-esteem levels, with females generally exhibiting higher scores.
3. **Negative Impact of Cyberbullying on Self-Esteem:** Regression analysis revealed that cyberbullying significantly predicts lower self-esteem among university students. Specifically, an increase in cyberbullying corresponds to a measurable decrease in self-esteem, highlighting the psychological vulnerability of students subjected to online aggression.
4. **Correlation Between Psychological Factors and Behavioral Outcomes:** The study indicates that exposure to cyberbullying is associated with feelings of shame, social rejection, and anxiety, which may adversely affect academic performance, social adjustment, and overall psychological well-being.
5. **Implications for Prevention and Intervention:** The findings emphasize the need for proactive measures, including digital literacy education, psychological counseling, and enforcement of behavioral policies, to mitigate cyberbullying and support the development of healthy self-esteem among university students.

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## Ethical Considerations

This study adhered to the highest ethical standards in research involving human participants. Participation in the study was entirely voluntary, and all participants were provided with detailed information regarding the research objectives, procedures, and confidentiality measures. Informed consent was obtained from all participants before data collection. The researchers ensured anonymity and confidentiality by assigning codes to participants instead of using personal identifiers. The study was conducted in accordance with the ethical guidelines set forth by Abdelhamid Ibn Badis University, Mostaganem, and the principles outlined in the Declaration of Helsinki (2013) for research involving human subjects.

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## Novelty of the Study

This study contributes novel insights into the relationship between cyberbullying and self-esteem within the university context in Algeria, particularly at Abdelhamid Ibn Badis University, Mostaganem. While previous research has explored cyberbullying or self-esteem separately, this study integrates both constructs using a descriptive-analytical approach and robust psychometric tools. It highlights the prevalence and psychological implications of cyberbullying on self-esteem among students, providing empirical evidence to inform prevention strategies, institutional policies, and awareness programs. Furthermore, the study extends the literature on cyberpsychology in North African higher education settings, an under-researched context in the global discourse on digital behavior and adolescent well-being.

## Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this study. The research was conducted independently, and the authors affirm that the findings are presented objectively and without any financial or personal bias.

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