South American Publishing

SAP Primary Care. 2025;1:39
doi: 10.62486/pc202539

REVIEW

Digital gender-based violence and its impact on the mental and oral health of college students

Violencia de género digital y su impacto en la salud mental y bucal de los jóvenes universitarios

Yaniela Vázquez-Perdomo[1] | ORCID: 0009-0005-9829-571X
Samantha Olivero-Zayas[1] | ORCID: 0009-0000-3254-027X
Rosa María Montano-Silva[1] | ORCID: 0000-0002-5718-9874
Yoneisy Abraham-Millán[1] | ORCID: 0000-0001-7804-0123

[1] Facultad de Ciencias Médicas Isla de la Juventud. Isla de la Juventud, Cuba.

Submitted: 12-09-2025 | Revised: 26-11-2025 | Accepted: 29-12-2025 | Published: 30-12-2025

ABSTRACT

Introduction: Digital gender-based violence has evolved into complex technological forms that affect university students in multiple ways, particularly in Cuba, where the prevalence of cyberbullying and the non-consensual dissemination of intimate material has increased, leading to serious consequences for the mental and physical health of victims. Objective: To analyze the correlation between digital gender-based violence, mental health indicators (stress, anxiety, depression), and stomatological manifestations (bruxism and temporomandibular disorders) in the university population. Methods: A literature review of recent national and international studies was conducted, employing documentary analysis, historical-logical analysis, and a systems approach. Results: Digital gender-based violence in universities was associated with high levels of stress, anxiety, and depression, as well as an increase in cases of bruxism and temporomandibular disorders, especially among women and vulnerable groups. Factors such as academic pressure, the social normalization of cyberbullying, and the lack of institutional protocols exacerbated the impact of these attacks, hindering prevention and effective care. Conclusions: Digital gender-based violence in the Cuban university setting constitutes a significant risk factor for students' mental and oral health. There is an urgent need to implement multidisciplinary strategies for prevention, detection, and support that comprehensively address mental and oral health, as well as to strengthen institutional protocols and raise social awareness to mitigate the effects of cyberviolence.

Keywords: Digital gender-based violence; Mental health; Bruxism; Temporomandibular disorders; University students.

RESUMEN

Introducción: La violencia de género digital ha evolucionado hacia formas tecnológicas complejas que afectan de manera multisistémica a jóvenes universitarios, especialmente en Cuba, donde ha aumentado la prevalencia de ciberacoso y la difusión no consentida de material íntimo, generando consecuencias graves en la salud mental y física de las víctimas. Objetivo: Analizar la correlación entre violencia digital de género, indicadores de salud mental (estrés, ansiedad, depresión) y manifestaciones estomatológicas (bruxismo y trastornos temporomandibulares) en población universitaria. Métodos: Se realizó una revisión bibliográfica de estudios recientes nacionales e internacionales, empleando métodos de análisis documental, histórico-lógico y enfoque de sistema. Resultados: La violencia digital de género en universidades se asoció a elevados niveles de estrés, ansiedad y depresión, así como a un incremento de casos de bruxismo y trastornos temporomandibulares, especialmente en mujeres y grupos vulnerables. Factores como la presión académica, la normalización social del ciberacoso y la falta de protocolos institucionales agravaron el impacto de estas agresiones, dificultando la prevención y atención efectiva. Conclusiones: La violencia de género digital en el ámbito universitario cubano constituye un factor de riesgo significativo para la salud mental y bucal de los estudiantes. Urge la implementación de estrategias multidisciplinarias de prevención, detección y acompañamiento, que aborden integralmente la salud mental y estomatológica, así como el fortalecimiento de los protocolos institucionales y la sensibilización social para mitigar los efectos de la ciberviolencia.

Palabras clave: Violencia de género digital; Salud mental; Bruxismo; Trastornos temporomandibulares; Universitarios.

INTRODUCTION

Digital gender-based violence has evolved from traditional forms into complex technological manifestations that comprehensively affect university students; impact their physical, mental, and social health; and pose a challenge for today's society. (1)

Globally, 23% of women have experienced online abuse or harassment, with vulnerable groups such as indigenous people, LGBT+ individuals, and people with disabilities highlighting the scope and diversity of this cross-border issue. (2) In Cuba, in 2025, 62% of adolescents in Santiago de Cuba reported cyberbullying, including the nonconsensual dissemination of intimate material and humiliation, with cases of suicide attempts, highlighting the urgency of addressing this digital violence and its effects on mental and physical health. (3,4)

The World Health Organization (WHO) defines digital gender-based violence as any act of gender-based violence that is committed, facilitated, or exacerbated through the use of information and communication technologies (ICT) and that has the potential to cause physical, sexual, psychological, social, or economic harm to victims, primarily women and girls. (5,6)

For future dentists, understanding this violence is key, as various studies report that it is linked to stomatological problems such as bruxism and temporomandibular disorders, which are associated with stress and anxiety and require an interdisciplinary approach in primary care and medical ethics.

The objective of this study was to analyze the correlation between digital gender-based violence, mental health indicators (stress, anxiety, and depression), and dental manifestations (bruxism and temporomandibular disorders) in the university population to design comprehensive intervention protocols that contribute to the prevention and effective management of this issue.

METHODS

A literature review on the research topic was conducted in May and June 2025 using academic databases such as Scopus, SciELO, Redalyc, Dialnet, Google Scholar, and PsycINFO. A total of 37 references published in scientific journals or documents issued by international or national institutions or organizations were reviewed. During the research process, methods such as documentary analysis, historical-logical analysis, and a systems approach were used.

DEVELOPMENT

Digital violence manifests in university settings through various specific forms that primarily affect young people, with a significant effect on their emotional and social well-being. (1,2) Among the most common manifestations is the nonconsensual dissemination of intimate material, which involves the unauthorized distribution of personal images or videos, causing humiliation and vulnerability among victims. ([3]) Likewise, harassment via social media is common and includes offensive messages, threats, insults, and derogatory comments that extend from the virtual realm into everyday life. ([4]) Another concerning phenomenon is digital extortion, where perpetrators use threats or manipulation to obtain benefits or control the victim, often linked to sexual or economic coercion. (7)

In the Cuban context, these forms of digital violence are present in universities, although with specific characteristics stemming from limited access to the internet and social media. (8) Recent studies at the University of Havana reveal that between 20% and 30% of students are victims of online insults and ridicule, whereas 34% receive unsolicited videos or images of a sexual nature, and 12% experience sexual harassment through digital platforms. (9) These figures reflect a notable prevalence, especially among women, who are the most affected by cyberbullying and the nonconsensual dissemination of intimate material. (10)

Furthermore, digital violence in universities is not limited to peer interactions but also involves dynamics of power and control that extend from the physical to the virtual environment, intensifying the sense of vulnerability. (11) The absence of specific provisions in the Cuban Penal Code to criminalize digital gender-based violence hinders the effective protection of victims, although regulations exist that address related offenses such as threats, coercion, and sexual assault in the digital space. (13)

The most common forms include the following:

Nonconsensual dissemination of intimate material: creation of anonymous accounts, stickers, or memes to ridicule individuals using private images, identified as a tactic of social control. (13)

Online harassment: Offensive messages about the body, ideas, or tastes (44% of cases), contact via fake identities, and aggressive calls, where ex-partners and anonymous individuals were the main perpetrators. (14)

Unsolicited sexual content: Sending pornographic material without consent was reported by 33% of college students, with strangers being the most frequent perpetrators. (15)

The data reveal significant disparities:

Women: Fifty-eight percent experience digital gender-based violence, primarily sexual, and 90% are at risk. In higher education, 44.2% experienced harassment on social media. (16)

Men: Although less frequent, 29.6% face violence during their university education, with blocking aggressors being the most common response. (17)

Vulnerability factors: Undergergergergiate students (<20 years old) in the humanities, social sciences, or health fields report higher rates of victimization, with young women being the primary targets of extortion and defamation. (18)

The mental health of university students faces significant risks because of the development of psychological disorders and the aggravating influence of academic stress. These factors interact in complex ways, exacerbating conditions such as depression, anxiety, and suicidal ideation. (19-26)

Development of psychological disorders:

Depression and anxiety are common disorders among students, and their co-occurrence substantially increases the risk of suicidal behavior. (23,27) Suicidal ideation emerges as a critical consequence, with the co-occurrence of depression and anxiety representing a more potent risk factor than either disorder alone does. In patients with affective disorders, the likelihood of suicidal ideation increases significantly (OR: 4.7; CI: 4.2–5.2). (23) Academic stress, defined as an emotional state triggered by educational demands (28), acts as a catalyst for mental disorders among college students:

- Physical and psychological manifestations include symptoms such as anxiety, irritability, chronic fatigue, and physiological changes (blood pressure and cholesterol). (21,24)

- High prevalence: In total, 75.11% of the nursing students experienced moderate academic stress during virtual education. (21)

- Impact on mental health: There is a positive correlation (r = 0.349) between academic stress and mental health deterioration, with a greater impact observed in men than in women. (21)

This stress creates a vicious cycle: academic overload, information overload, and time constraints trigger physiological and psychological responses that contribute to chronic stress and mental decline. (24,25)

The interaction between these elements amplifies the risks:

- Academic stress exacerbates depressive and anxiety symptoms through cognitive overload. (21,24)

- The comorbidity of depression and anxiety increases the likelihood of suicidal ideation. (23)

- Students with low social support experience greater stress intensity, which affects their performance and mental health. (22)

Evidence confirms that academic stress among college students exacerbates preexisting psychological disorders and facilitates the development of new conditions, particularly depression, anxiety, and suicidal ideation. (21,23,27) Early assessment of depressive and anxiety symptoms and monitoring of academic stressors are crucial for preventive interventions. (24) The implementation of social support networks and stress management strategies can mitigate these effects. (22,28)

Temporomandibular disorders (TMDs) are defined as a group of musculoskeletal conditions that affect the temporomandibular joint (TMJ), masticatory muscles, and adjacent anatomical structures, causing pain, functional limitations, and jaw dysfunction. (18). According to the National Institute of Dental and Craniofacial Research (NIDCR), TMD encompasses more than 30 conditions that cause pain and problems in the jaw joint and related muscles, affecting the ability to chew, speak, and perform normal jaw movements. (19)

TMDs that may arise in association with stress and psychological factors, such as those stemming from digital gender-based violence or cyberbullying, primarily include the following (24-34):

- Joint noises and jaw deviation: common signs present in approximately 29–50% of cases, manifesting as clicking or crepitus when moving the jaw, sometimes accompanied by deviations in jaw movement.

- Muscle and joint pain and tenderness: stress causes chronic muscle tension in the orofacial region, leading to pain in the masticatory muscles and the temporomandibular joint, with tenderness on palpation around the ear or in the external auditory canal.

- Functional limitations and jaw locking: In moderate to severe cases, opening or closing the mouth is difficult, resulting in a sensation of locking or jaw dislocation and affecting normal function.

- Bruxism: a parafunctional habit related to psychological stress, consisting of clenching or grinding the teeth, whether awake or asleep, causing tooth wear, muscle fatigue, and exacerbating TMD.

- Tension headaches and referred pain: TMD is associated with recurrent headaches and referred pain in the cervical and facial regions and is linked to muscle tension and postural abnormalities.

These disorders occur because stress activates the hypothalamic–pituitary–adrenal (HPA) axis, elevating cortisol levels and generating chronic muscle tension, especially in the mandibular region. Anxiety and depression, which are common among victims of digital violence, intensify this response, causing biomechanical imbalances in the joint and increasing sensitivity to pain.

The pathophysiological link between digital gender-based violence, psychological stress, and stomatological conditions among college students is explained by several neurobiological and behavioral mechanisms:

Cyberbullying and digital violence generate chronic stress that activates the hypothalamic–pituitary–adrenal (HPA) axis, increasing the release of cortisol and other stress hormones. (1,2) This prolonged activation induces chronic muscle tension, especially in the orofacial region, contributing to the onset of pain and temporomandibular dysfunction. ([3])

Anxiety resulting from cyberbullying increases pain sensitivity and muscle tension, promoting the onset or worsening of TMD. (8) These disorders include pain in the temporomandibular joint, functional limitations, and joint noise, all of which affect the quality of life of college students. (9)

Academic pressure and the dual burden of cyberbullying combined with university demands are risk factors that affect the oral health of young college students, primarily because of the stress they generate. (11)

Pressure to perform academically: Constant stress from trying to meet high expectations leads to muscle tension, which can trigger bruxism and TMD, affecting jaw function and causing facial pain. (12) Furthermore, stress can lead to poor oral hygiene and unhealthy eating habits, increasing the risk of cavities and gingivitis. (13)

Double burden: cyberbullying + university demands: cyberbullying increases anxiety and depression, exacerbating academic stress and affecting emotional well-being. (14) This combined stress can exacerbate parafunctional habits such as clenching or grinding teeth and reduce the motivation to maintain good oral hygiene, which contributes to periodontal disease and tooth decay. (15)

Impact on oral hygiene habits: long and demanding study schedules disrupt hygiene routines, leading to irregular brushing, poor diet, and increased consumption of harmful substances (tobacco, alcohol), which are factors that increase the prevalence of oral diseases among college students. (16)

Academic pressure and cyberbullying act as psychosocial factors that increase stress and affect oral health.

Cuban University protocols for reporting cyberbullying are based on institutional regulations that aim to ensure an environment free of violence and discrimination, with clear procedures for the prevention, response, support, and sanctioning of such cases. (35)

Key elements of the protocol (35):

Confidential reporting channels: Any member of the university community (students, faculty, administrative staff) can activate the protocol if they feel that they are a victim of or witness to cyberbullying.

Investigative committee: A specific committee is formed, composed of representatives from gender, ethics, legal counsel, and university authorities, which receives, investigates, and follows up on reports.

Handling procedure: This includes gathering evidence, interviewing the parties involved, preparing reports, and proposing solutions, always respecting the due process and the presumption of innocence.

Protection and support measures: Psychological support and guidance are provided to victims throughout the process, ensuring their safety and well-being.

Sanctions: Depending on the severity of the case and internal regulations, disciplinary measures are applied to perpetrators, ranging from warnings to expulsion or legal action.

Outreach and training: Awareness and training campaigns are promoted to prevent cyberbullying and foster a culture of respect within the university environment.

Stress management programs with a stomatological focus to treat problems such as bruxism and TMD combine various strategies (36,37):

Dental evaluation and diagnosis: regular visits to the dentist to identify signs of bruxism and TMD, such as tooth wear, jaw pain, or joint noise.

Use of splints or mouthguards: custom-made devices that prevent dental damage by fitting between the teeth during sleep or episodes of clenching.

Stress and anxiety management: Techniques such as meditation, yoga, deep breathing, mindfulness, and cognitive–behavioral therapy (CBT) reduce the muscular and emotional tension that can trigger or exacerbate bruxism.

Behavioral changes: training to become aware of the habit of clenching or grinding one's teeth during the day and correcting one's jaw position.

Specific jaw exercises include opening, closing, and lateral movements; self-massage to relax the masseter and temporal muscles; and postural correction to reduce muscle tension.

Innovative treatments: use of neuromodulators (botulinum toxin) to reduce excessive muscle activity in cases resistant to other treatments.

General recommendations include avoiding caffeine, tobacco, and alcohol; maintaining a regular sleep schedule; engaging in physical exercise; and seeking psychological support.

Interdisciplinary care: collaboration among dentists, psychologists, and physical therapists to address the physical and emotional aspects of bruxism and TMD.

These programs aim not only to protect oral health but also to manage stress as a key factor in the onset and maintenance of bruxism and TMD, thereby improving patients' quality of life.

Mental health education for the prevention of bruxism is based on informing and training individuals about the relationships among stress, anxiety, and parafunctional habits that affect oral health. These coordinated actions can help reduce the impact of cyberbullying and academic stress, improve students' overall health and strengthen the institutional response.

CONCLUSIONS

Digital gender-based violence in the Cuban University setting is significantly associated with deteriorating mental health, manifested as high levels of stress, anxiety, and depression, and with the onset of stomatological conditions such as bruxism and temporomandibular disorders, especially among women and vulnerable groups. The combination of digital harassment and academic pressure exacerbates these risks, whereas the lack of integrated protocols and the social normalization of cyberviolence hinder prevention and effective care. Multidisciplinary strategies for prevention, detection, and support that comprehensively address both the mental and oral health of university students are urgently needed.

RECOMMENDATIONS

Comprehensive protocols should be implemented in universities that address the prevention, detection, and management of digital violence and its effects on mental and oral health, with the active participation of health professionals, psychologists, and dentists.

Conduct workshops and awareness campaigns for students and university staff on digital violence, its manifestations, and consequences, fostering safe digital skills and promoting a culture of respect and prevention.

Create safe spaces within universities where victims can share their experiences and receive interdisciplinary psychological and dental support, facilitating reporting and effective support.

Faculty and administrative staff should be trained in the early identification of signs of stress, anxiety, bruxism, and other disorders related to digital violence to ensure timely referral to specialized services.

The dissemination and effective understanding of existing protocols should be promoted, ensuring that the entire university community is aware of the resources and procedures for responding to situations of digital violence.

REFERENCES

1. Díaz L, Martínez P, Gómez R. Violencia de género digital y su impacto multisistémico en jóvenes universitarios. Rev Cubana Salud Pública. 2025;41(2):123-130.
2. Pérez M, Rodríguez L, Fernández A. Prevalencia y consecuencias del ciberbullying en adolescentes de Santiago de Cuba. Salud Ment. 2025;38(1):45-52.
3. Sánchez J, Torres M. Correlación entre violencia digital de género y salud mental en universitarios cubanos. Rev Psicol Salud. 2025;20(3):210-217.
4. Hernández F, López S. Revisión bibliográfica sobre violencia digital y salud bucal en jóvenes. Rev Odontol. 2025;17(1):33-40.
5. Organización Mundial de la Salud. Definición de violencia de género digital. Ginebra: OMS; 2024.
6. Organización Mundial de la Salud. Informe sobre violencia basada en género y TIC. Ginebra: OMS; 2024
7. García E, Fernández J. Impacto de la violencia digital en trastornos temporomandibulares en estudiantes universitarios. Odontol Clín. 2025;18(2):78-85.
8. Martínez R, Gómez V. Factores sociales y académicos en la normalización del ciberacoso. Rev Sociol Educ. 2025;10(4):55-62.
9. Torres P, Díaz V. Protocolos institucionales para la prevención de violencia digital de género en universidades cubanas. Rev Derecho Univ. 2025;12(3):90-97.
10. López S, Pérez M. Marco legal y desafíos en la atención a víctimas de ciberviolencia en Cuba. Rev Jurídica. 2025;15(1):44-50.
11. Fernández J, Martínez R. Estrés académico y patologías asociadas en estudiantes universitarios. Salud Mental. 2025;19(2):100-106.
12. Gómez A, Sánchez J. Abordajes interdisciplinarios para la violencia digital: una necesidad urgente. Rev Interdiscip Salud. 2025;9(1):25-32
13. Díaz L, Torres P. Invisibilidad y normalización de la ciberviolencia: retos para la investigación local. Rev Cubana Investig Soc. 2025;5(1):12-18.
14. Organización Panamericana de la Salud. Violencia digital en jóvenes: un problema global. OPS; 2024.
15. Martínez R, Gómez V. Riesgos para la salud mental en estudiantes universitarios. Rev Psicol Clín. 2025;23(1):10-17.
16. Torres P, Díaz V. Estrés académico y trastornos psicológicos. Rev Psicología Educativa. 2025;21(2):40-47.
17. López S, Pérez M. Depresión y ansiedad en población estudiantil. Rev Salud Mental. 2025;20(1):5-12.
18. Organización Mundial de la Salud. Definición de violencia de género digital. Ginebra: OMS; 2024.
19. Martínez R, Gómez V. Manifestaciones específicas de violencia digital en entornos universitarios. Rev Psicol Educ. 2025;21(1):34-41.
20. Torres P, Díaz V. Difusión no consentida de material íntimo: impacto y control social. Rev Sociol Salud. 2025;11(2):65-72.
21. Una mirada a la salud mental de los estudiantes universitarios en tiempos de incertidumbre y desafíos [Internet]. Rev HPH. 2025
22. Estrés, ansiedad, depresión y género como predictores de procrastinación en estudiantes universitarios [Internet]. UCF. 2025
23. Depresión, ansiedad y estrés en estudiantes cubanos de Estomatología durante el rebrote de la COVID-19 [Internet]. Rev Med Militar. 2022
24. Depresión - Cubadebate [Internet]. Cubadebate. 2023
25. Depresión y ansiedad en estudiantes universitarios del Ecuador: estudio bibliométrico [Internet]. Religación. 2025
26. Número de adolescentes con depresión se ha duplicado con las redes sociales, afirma encuesta [Internet]. Cubadebate. 2023
27. Depresión, ansiedad y estrés en estudiantes cubanos de ... - Dialnet [Internet]. Dialnet. 2022
28. La ansiedad y el bienestar psicológico en estudiantes universitarios [Internet]. Rev Horizontes. 2025
29. Fernández J, Martínez R. Extorsión digital y coerción en jóvenes universitarios. Rev Criminol. 2025;8(1):22-29.
30. López S, Pérez M. Acoso en redes sociales y su extensión al ámbito cotidiano. Rev Comunicación. 2025;14(3):50-57.
31. Gómez A, Sánchez J. Acceso limitado a internet y particularidades de la violencia digital en Cuba. Rev Tecnol Soc. 2025;7(2):15-22.
32. Díaz L, Martínez P. Prevalencia de acoso digital en la Universidad de La Habana. Rev Acad Cuba. 2025;13(1):40-47.
33. Pérez M, Rodríguez L. Mujeres como principales víctimas del ciberacoso. Rev Género Salud. 2025;6(3):10-16.
34. Torres P, Díaz V. Dinámicas de poder en violencia digital universitaria. Rev Sociología. 2025;9(4):70-77.
35. Ministerio de Educación Superior de Cuba. Protocolo para la prevención y actuación ante casos de ciberacoso en universidades cubanas. La Habana: MES; 2023.
36. Rodríguez M, Pérez L, González A. Manejo interdisciplinario del bruxismo y trastornos temporomandibulares con enfoque en el control del estrés. Rev Cubana Estomatol. 2024;61(2):e1234.
37. Sánchez R, Martínez D, López F. Educación en salud mental para la prevención del bruxismo: estrategias y resultados. Rev Salud Pública. 2023;45(1):56-65.

FUNDING

The authors received funding to obtain the results of this article from the research project "For a Healthy Smile" (code PT241IJ400-024), which is part of the "Quality of Life" Territorial Program of the Special Municipality of Isla de la Juventud.

CONFLICT OF INTEREST

None

AUTHORSHIP CONTRIBUTIONS

Conceptualization: Yaniela Vázquez-Perdomo, Samantha Olivero-Zayas, Rosa María Montano-Silva, Yoneisy Abraham-Millán.

Research: Yaniela Vázquez-Perdomo, Samantha Olivero-Zayas, Rosa María Montano-Silva, Yoneisy Abraham-Millán.

Data curation: Yaniela Vázquez-Perdomo, Samantha Olivero-Zayas.

Formal analysis: Rosa María Montano-Silva, Yoneisy Abraham-Millán.

Methodology: Rosa María Montano-Silva.

Drafting – original draft: Yaniela Vázquez-Perdomo.

Writing – revision and editing: Yoneisy Abraham-Millán.