

Digital Transformation and School Violence in Algeria: Emerging Drivers of Aggressive Behaviour in Digitally Mediated Environments

Hati Mensour^{1*}

Applied Linguistics and Arabic Language Teaching, Djillali Liabès University of Sidi Bel Abbès, Sidi Bel Abbès, Algeria

Email: hati2017zz@gmail.com

ORCID: 0009-0006-1981-927X

Hamdi Cherif Said²

Department of Philosophy, École Normale Supérieure de Bouzaréah, Algiers, Algeria

Email: said.ensb@yahoo.fr

ORCID: 0009-0002-6858-1895

Abdelwahhab Benslama³

Applied Philosophy, University of Mostaganem, Mostaganem, Algeria

Email: abdelwahhab.benslama.etu@univ-mosta.dz

ORCID: 0009-0002-2605-9468

¹ Djillali Liabès University of Sidi Bel Abbès, Algeria

² École Normale Supérieure de Bouzaréah, Algeria

³ University of Mostaganem, Algeria

*Corresponding author: Hati Mensour, hati2017zz@gmail.com

Abstract

Digital transformation has substantially altered the social and communicative environments in which students construct identities, negotiate authority, and develop behavioural patterns. This conceptual study examines the emerging drivers of school violence in Algeria within the context of digitally mediated interaction. It analyses how the defining characteristics of digital environments—including interactivity, asynchronicity, rapid dissemination, anonymity, and relatively unrestricted expression—may facilitate aggressive behaviour and contribute to the normalisation of violence. Particular attention is given to cyberbullying, online provocation, symbolic aggression, the construction of virtual identities, and the transfer of digital conflicts into physical school settings. The study further considers the growing influence of online personalities and peer networks alongside the declining authority of teachers and educational institutions, resulting in competing sources of socialisation and behavioural guidance. It argues that digitally influenced school violence cannot be adequately understood as an isolated individual or disciplinary problem; rather, it emerges through the interaction of technological affordances, family conditions, institutional structures, and wider socio-cultural dynamics. Effective prevention therefore requires an integrated framework involving families, schools, media organisations, legal institutions, and digital platforms. The study concludes that educational responses should combine digital literacy, ethical awareness, psychosocial support, responsible technology use, and the restoration of constructive educational authority.

¹ Received: February 17, 2026; Accepted: June 25, 2026; Published: August 23, 2026

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Keywords: school violence; digital transformation; aggressive behaviour; cyberbullying; educational authority; digital identity; Algeria.

Introduction

The contemporary world is witnessing profound transformations that can no longer be reduced to mere technological development or the spread of new means of communication. Rather, they reflect a qualitative shift in patterns of social existence, whereby the real increasingly intersects with the virtual, and the learner becomes an active participant in complex networks of interaction and knowledge. In this context, the school is no longer the sole primary reference point for values and behaviour. Instead, it has become one among several spaces in which multiple direct and less visible influences intersect. Some of these are connected to educational institutions, while others emanate from digital media, which go beyond merely transmitting information to reshape learners' behaviour and identities.

The significance of this transformation is particularly evident in the changing forms of aggressive behaviour among students. Aggression is no longer confined to direct confrontation within the classroom; it has extended to symbolic and cyber forms characterised by rapid dissemination, an expanding sphere of influence, and increasing difficulty of regulation. Students today live within a value duality between the authority of the school, which represents formal norms, and the authority of the digital space, which represents popularity and immediacy. This creates tension within their value systems and directly affects their behaviour in the school environment.

This gives rise to the following question, which this paper seeks to address:

How have digital transformations contributed to reshaping aggressive behaviour within the school environment, and to what extent have these transformations generated new factors that explain the growing incidence of violence in the educational environment?

To address this question, the paper focuses on the following elements:

1. Distinguishing between digitisation and digital transformation in order to understand how digital change extends beyond the mere conversion of information to exert a profound influence on patterns of social and cultural interaction.
2. Examining the characteristics of the digital environment, including interactivity, asynchronicity, the rapid circulation of content, freedom of expression, immediate stimulation, and anonymity, while highlighting the influence of each characteristic on learners' aggressive behaviour.
3. Identifying emerging factors that help explain aggressive behaviour, including the normalisation of violence through digital media, the declining authority of teachers and educational institutions, the rise of influencers as alternative educational reference points, and the duality of educational authority and its effects on students.
4. Examining mechanisms of prevention and intervention through integrated strategies involving the family, school, media, legal frameworks, and technological solutions, with a view to regulating behaviour and protecting students within the digital environment.

Axis One: Digital Transformations and the Reshaping of Social Behaviour

1. The Concept of Digital Transformation

Before examining digital transformation, it is important to distinguish it from digitisation, as the two concepts are often conflated in everyday usage despite having distinct meanings. Digitisation refers to the purely technical process of converting conventional information and data, whether texts, images, or documents, into digital formats that can be stored and processed by computers and

electronic devices. In other words, digitisation involves reformulating content and data from a material or conventional form into a digital form that can be handled electronically. It does not, however, fundamentally alter institutional structures or patterns of work; rather, it constitutes a preliminary step towards handling data more flexibly and rapidly. Digital transformation, by contrast, goes beyond digitisation to encompass the restructuring of systems, procedures, and patterns of social and cultural interaction.

G. Vial notes that:

“Digitisation differs from digital transformation in that it is considered part of the digital transformation process. Digitisation is the technical process of converting analogue data into a digital format, whereas digital transformation involves profound changes in institutional or functional structures, making use of digitisation to build new work systems with a fully digital character.” (Barkan & Rabie, 2025, p. 900)

Another definition describes digital transformation as:

“a series of radical changes that have affected different aspects of human life as a result of the spread of information and communication technologies, particularly with the emergence of the Internet, artificial intelligence, and interactive media platforms. This transformation has altered the very nature of communicative action.” (Boussaleh, 2025, p. 188)

The recipient is no longer passive but has become an active participant in producing and circulating content. The classical relationship between sender and medium has consequently become fragmented, giving rise to what is known as the networked positioning of communication, a phenomenon extensively discussed by Manuel Castells in his thesis on the “network society”.

Sarah Mohammed Al-Mafdi defines digital transformation as:

“investment in thought and behavioural change to bring about a radical transformation in the way work is carried out by making use of major technological advances in order to serve beneficiaries more rapidly and effectively. Digital transformation provides enormous potential for building effective, competitive, and sustainable communities by bringing about radical changes in different services for consumers, employees, and beneficiaries, while improving their experiences and productivity through a series of interconnected processes accompanied by the reformulation of the procedures required for activation and implementation.” (Al-Mafdi, 2020)

On the basis of the foregoing, a procedural definition of digital transformation can be formulated for the purposes of this paper. It refers to the process through which digital technologies and contemporary media, including the Internet, social media platforms, and electronic games, become widespread and are adopted in ways that affect patterns of social interaction, modes of thinking, individual identity, and human behaviour, including tendencies towards aggression and symbolic and cyber violence.

2. Characteristics of the Digital Environment

The characteristics of the digital environment are diverse, as are its technological possibilities. What distinguishes it most significantly, however, is the communicative and cognitive capacities it provides to its users and the new forms of social interaction that emerge within virtual space. Its principal characteristics include the following:

Interactivity: This is manifested in the Internet’s role as an open space that enables direct communication and immediate dialogue through various applications and platforms, allowing users to participate in discussions and interact with issues under consideration. Yet such intensive interaction may, in certain contexts, become a space for escalating tensions and increasingly hostile forms of discourse.

Asynchronicity: This refers to the liberation of communication from temporal constraints, allowing individuals to respond to messages at a time of their choosing. This temporal separation may, however, sometimes weaken an immediate awareness of the consequences of interaction, thereby creating room for less regulated forms of expression.

Freedom and the transcendence of spatial boundaries: This characteristic refers to the ability to produce and disseminate content on a broad scale without geographical barriers, enabling issues to circulate both locally and globally. Such breadth, however, may sometimes be exploited to disseminate radical or aggressive forms of discourse that transcend geographical boundaries.

The capacity for storage and preservation: The digital environment enables users to archive communicative materials and retrieve them when needed, thereby enhancing the continuity of knowledge. At the same time, this characteristic may keep certain negative or violent forms of content available for renewed circulation and influence.

Speed and immediacy: These are manifested in the rapid exchange of news, information, and opinions, allowing for swift responses to events. Such speed may nevertheless sometimes contribute to the dissemination of provocative or poorly regulated content, resulting in emotionally driven reactions (Al-Mashhadani & Al-Ubaidi, 2020, pp. 76–78).

Ease of access to inappropriate content: Platforms such as TikTok, Instagram, and YouTube provide enormous quantities of material, including aggressive or deviant content that minors may find difficult to identify, assess, or resist in the absence of sufficient maturity.

The logic of rapid stimulation and immediate reward: Through mechanisms of interaction such as likes, shares, and follower counts, digital platforms reinforce users’—particularly younger users’—desire for social acceptance, even when such acceptance is achieved through unhealthy or deviant behaviours.

Weak monitoring and accountability: Users may develop the perception that they are operating within a virtual space largely free from surveillance. This may generate a false sense of exemption from accountability and encourage engagement in deviant cyber behaviours without sufficient awareness of their consequences (Shahed, 2025, p. 687).

Identity concealment: The digital environment enables individuals to assume a virtual persona that differs from their actual identity, reducing direct confrontation and providing greater freedom in interaction and self-expression. Such concealment may, however, sometimes facilitate engagement in behaviours that individuals would not dare to practise in real life, or encourage them to adapt their positions to meet others’ expectations without direct accountability (Bahnass, 2016, p. 278).

Axis Two: Emerging Factors Explaining Aggressive Behaviour in the Digital Environment

In light of the profound transformations that society has undergone over the past decade, the digital environment has emerged as an influential factor in reshaping students’ patterns of social interaction. Its impact is no longer confined to communication media but extends to the structure of values and representations associated with knowledge, role models, and educational authority. The widespread diffusion of digital technologies has created a parallel space in which different reference points intersect and within which new patterns of behaviour emerge that do not always correspond to those that educational institutions seek to establish.

In this context, aggressive behaviour within the school environment can no longer be explained solely in terms of traditional factors. It has also become connected to a range of digital influences that reshape students’ representations of power and social recognition and affect how they express themselves within the group. Understanding this phenomenon therefore requires attention to the principal emerging factors associated with the digital environment that may contribute to explaining the growth of certain forms of aggressive behaviour in the school context.

1. The Normalisation of Violence through Digital Media

Continuous exposure to aggressive content through digital media constitutes an important factor in explaining the growth of aggressive behaviour among students. Through digital games and social media platforms, this environment may contribute to weakening sensitivity to violence and rendering it a familiar form of everyday interaction. The continuous repetition of hostile scenes and discourses reshapes learners' representations of what is socially acceptable and gradually narrows the distance between rejection and acceptance (Lakhzaz, 2024, p. 97).

This effect is not limited to violence in its direct form but extends to the normalisation of unethical behaviours. Continuous exposure to sarcastic, hostile, or provocative content may cause such behavioural patterns to appear ordinary or acceptable to learners. In this context, the study by Luo et al. (2022) indicates that students' exposure to hostile or bullying discourse may produce changes in their moral judgements and increase the likelihood that they will adopt such behaviours in their everyday practices, whether in digital environments or in the school itself.

The media perspective reinforces this interpretation by emphasising the close relationship between media content and individual behaviour. Daily repetition of content that depicts violence or presents it as acceptable or even desirable contributes to reshaping its meanings, so that violence may come to be understood as a legitimate means of interaction or of gaining recognition within the group (Zine El-Din, 2003, p. 52).

Accordingly, digital media do not merely display aggressive behaviours; they may also contribute to reproducing and normalising them, making them an important explanatory factor in understanding the growth of aggressive behaviour among students in the contemporary school context.

2. The Decline of Teacher and School Authority

Openness to the digital space has contributed to weakening the position of the teacher as the central educational reference point, partly as a result of the quantitative and qualitative superiority of digital content in terms of speed, attractiveness, and diversity, as confirmed by studies by Wilkins & Ligoeki (2025), in addition to the expansion of the range of role models beyond the school, as indicated by Martinez & Domingo et al. (2024). This decline has a direct impact on educational regulation within the institution, as teachers lose part of their symbolic authority, making some students more willing to violate rules or challenge classroom authority. Such behaviour may develop into verbal or physical aggression, including mocking teachers, rejecting discipline, or transforming educational situations into open conflicts that reflect a crisis of educational legitimacy.

3. The Rise of Influencers as Alternative Educational Reference Points

The digital environment has produced new actors in the educational sphere, represented by influencers who present models of identity, success, and communication in a language close to that of learners, thereby granting them a form of informal educational authority. This transformation contributes to reshaping students' value systems. Students may adopt behaviours characterised by provocation, mockery, or a desire for visibility—patterns that are digitally reinforced. When these behaviours are transferred into the school environment, they may appear in the form of symbolic violence, such as bullying and ridicule, or direct violence resulting from imitation of the “culture of challenge” promoted by certain platforms. Violence thus becomes an extension of behavioural models acquired outside the school framework.

The Duality of Educational Authority and Its Effects on Students

Students live under a dual system of authority: the school system, based on formal values and norms, and the digital environment, based on popularity, interaction, and immediacy. This creates a clear value tension, as Collins (2024) suggests. This contradiction produces a state of uncertainty in the construction of moral norms. Students find themselves between one discourse that calls for patience and discipline and another that glorifies speed, visibility, and dominance. As a result, they may resort

to violence as a rapid mechanism for resolving conflicts or asserting themselves, particularly when they observe that aggressive behaviours receive acceptance or popularity in digital spaces. The school consequently becomes an arena in which this value conflict is reflected.

The shift from the centrality of the school to a plurality of educational actors—including influencers, algorithms, and platforms—represents a profound transformation in the structure of educational authority. Values are no longer produced exclusively within the school; rather, they emerge from a complex interaction among multiple sources. This plurality may lead to a lack of value coherence and conflicting frames of reference, creating an unstable behavioural environment within the educational institution. Against this background, school violence appears as an expression of an imbalance among these forms of authority. Unable to integrate their behavioural standards, students may resort to aggressive patterns derived from digital space, making violence a structural consequence of the transformation of educational authority in the digital age.

The Influence of Virtual Identity on Students' Behaviour and the Transgression of Social Norms

The concealment of one's real identity in the digital environment constitutes one of the factors that may influence the emergence of aggressive behaviour among students. It provides individuals with broad freedom to express their inner selves and their "higher self" away from social, religious, or value-based constraints. This virtual movement allows students to move beyond the scope of direct surveillance and immerse themselves in an imagined virtual world in which they can express opinions and ideas that may conflict with established norms. The resulting separation between real and virtual identities may produce a state of alienation and dissociation, making aggressive behaviour more likely, whether in the form of verbal bullying, abuse of peers, or defiance of school rules. The digital environment thus becomes a setting that facilitates the concealed and covert practice of violence before it is transferred to the actual school environment.

Axis Four: Prevention and Intervention Mechanisms for Addressing School Violence in the Context of Digital Transformations

Addressing violence in digital spaces requires the concerted efforts of different actors operating at multiple levels, beginning with the family as the primary unit in the formation of the individual, extending through institutions of socialisation, and reaching legal and technological bodies. This can only be achieved through integrated strategies capable of responding effectively to the challenges posed by contemporary media and communication technologies. The principal strategies may be outlined as follows:

First: The Family Strategy

The family constitutes the primary actor in guiding children's use of digital technologies. Parents have a central role to play in accompanying their children towards balanced and safe use.

This requires enhancing parents' awareness of the positive dimensions of the Internet and making use of it for learning and skills development, while remaining alert to its potential risks. It also requires parents to become familiar with the threats their children may encounter and to promote the rational use of digital content, together with continuous monitoring of their online activities and the platforms and applications they use. In addition, sustained dialogue should be established in order to understand children's interests and concerns. It is also advisable to make use of age ratings for applications and games in order to regulate the type of content to which children are exposed (International Telecommunication Union, 2020).

Second: The Educational Strategy

This strategy is based on activating the role of educational institutions in raising learners' awareness of the nature of the digital environment, including its purposes, classifications, and risks, while familiarising them with the legislation and preventive measures associated with it.

It also requires the integration of purposeful educational programmes aimed at modifying learners' perceptions of violence and protecting them from becoming involved in violent content by developing their critical thinking, thereby enabling them to question digital content and understand the mechanisms through which violence is employed within it.

These efforts can be reinforced through value-based and religious reference points in order to consolidate awareness of the seriousness of such behaviours.

Third: The Media Strategy

This strategy involves employing media and communication in their various forms—including programmes, films, and advertising content—to disseminate awareness and guidance by reinforcing positive and non-violent behavioural models.

Highlighting interactive patterns based on self-control and dialogue, even in situations involving provocation, may contribute to reducing aggressive tendencies among recipients.

Fourth: The Legal Strategy

This strategy consists in developing legislative frameworks in ways that keep pace with the evolution of cybercrime, together with ensuring the compatibility of national legislation with relevant international agreements. Such measures would enable justice institutions to perform their functions effectively at national, regional, and international levels in order to reduce violence and crimes associated with the digital environment (Suhaili, 2025, p. 282).

Fifth: The Technical and Technological Strategy

This strategy focuses on strengthening the efficiency of specialised technological systems for monitoring digital risks and reporting them, as well as developing early-warning mechanisms and equipping them with modern technologies.

It also includes developing human capacities by training engineers and technicians specialised in digital evidence, in addition to training personnel within criminal justice institutions in methods for handling this type of evidence, thereby ensuring greater effectiveness in addressing digital threats.

Accordingly, confronting violence on social media platforms requires a comprehensive approach in which the family, educational, media, legal, and technological dimensions are integrated, thereby providing a greater degree of protection and guidance within the digital environment (Suhaili, 2025, p. 283).

Conclusion

The foregoing demonstrates that school violence can no longer be understood within the familiar boundaries that confine it to direct interaction within the educational institution. Rather, it has come to reveal a broader extension in which digital influences intersect with social and cultural structures, thereby reshaping its meanings and forms. Digital transformations have shifted communicative action from its simple linear form to a complex networked configuration characterised by multiple sources of influence and competing reference points. This has affected learners' behaviour and caused certain forms of violence to acquire a new character marked by informality, widespread circulation, and rapid dissemination.

Although digital media provide extensive opportunities for learning and interaction, they may simultaneously contribute to weakening sensitivity towards certain aggressive behaviours through the repeated exposure they generate to content characterised by harshness or provocation. Through continued circulation, violence may thus become closer to habituation than rejection. The interaction between educational authorities in the school and digital environments has also generated a degree of instability in norms. Learners no longer rely upon a single coherent reference point but

move among multiple frameworks that may not always be compatible with one another. This is reflected in their behaviour in the form of tensions and disturbances in judgement.

Accordingly, addressing this phenomenon cannot be reduced to its surface manifestations. Rather, it requires a deeper examination of the conditions that produce it and of the ways in which behaviour is reshaped within the digital environment. This calls for a renewal of educational thinking—not by eliminating or rejecting digital media, but by integrating them within an informed educational vision that makes their use a space for regulation rather than unrestrained behaviour, and for guidance rather than confusion.

The educational challenge today therefore lies in strengthening the relationship between educational action and the transformations taking place in its surrounding environment, so that the educational institution can recover its capacity to exert influence—not from a position of isolation, but from a position of understanding and integration. It must be capable of accompanying learners within this changing environment and guiding them towards balanced behaviour that combines awareness and responsibility and limits their movement towards forms of violence, whatever their manifestations may be.

Declarations

Author Contributions: All authors contributed to the study's conception, analysis, manuscript preparation, and final approval.

Funding: This research received no external funding.

Conflict of Interest: The authors declare no conflict of interest.

Ethical Approval: Ethical approval was not required for this conceptual study.

Data Availability: All materials supporting the study are contained within the manuscript and its references.

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