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Risk Factors for the Development of Student Aggression in Schools

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ABSTRACT

Student aggression in schools represents a multidimensional phenomenon resulting from the interaction of various risk factors. This article synthesizes contemporary theoretical and empirical research to present a comprehensive framework of these factors, organized into four interconnected domains: (1) biological and trait-based predispositions, (2) cognitive mechanisms such as hostile attribution bias and moral disengagement, (3) immediate situational triggers, and (4) broader social and environmental influences. Based on key models like the General Aggression Model and the Cognitive Neoassociation Theory, we demonstrate how vulnerabilities at one level interact with triggers at another to increase the likelihood of aggressive behavior. The article emphasizes that effective intervention requires integrated strategies that address student predispositions, cognitive distortions, classroom climates, and school-wide norms. By connecting this multi-layered theoretical framework to practice, the article provides a roadmap for developing targeted interventions that support safe and inclusive learning communities.

KEYWORDS: student aggression, risk factors, General Aggression Model, school climate, educational intervention, foreign language classrooms.

Introduction

Student aggression, defined as physical or verbal behavior intended to hurt someone (Singh, 2019), presents a significant challenge within educational settings. While theoretical perspectives offer explanations for the origins of such behaviour, an important step for effective intervention is identifying the specific risk factors that increase its likelihood. Aggression is not a uniform behavior but results from the interaction between internal predispositions and environmental conditions. A comprehensive understanding of these risks is essential for identifying institutional and pedagogical opportunities, such as those offered by

foreign language education, where students' engagement with authentic materials, intercultural experiences, and collaborative tasks fosters social competence, ethical communication, empathy, and tolerance and establishes normative and instructional conditions that promote prosocial behavior and reduce the likelihood of aggression**.** This article synthesizes the main risk factors for student aggression to provide educators and policymakers with a comprehensive framework for developing targeted prevention and intervention strategies.

Contemporary models of aggression emphasize integrative, multilevel explanations that consider biological, psychological, and social roots. Archer's (2009) ethological analysis provides a foundational lens, emphasizing that human aggression has adaptive, phylogenetic, developmental, and motivational dimensions deeply embedded in our evolutionary past. This view is complemented by Singh's (2019) tripartite taxonomy, which usefully categorizes the causes of aggression *into personal, socio-cultural, and situational domains. Personal causes* include personality, hostile attributional bias, disinhibition, narcissism, the TASS model, sensation seeking and gender differences. *Socio-cultural factors* include direct provocation, increased level of arousal, frustration, social status, exposure to media violence, violent or aggressive pornography and cultural norms. *Situational factors* include factors like heat, behavioral models, stress, reinforcement, aggressive cues, and the influence of substances, among others (Singh, 2019).

Berkowitz's (2012) cognitive-neoassociation model of aggression, as shown in Figure 1, provides a valuable framework for understanding impulsive aggressive behavior among students by emphasizing the interaction of dispositional, affective, physiological, and environmental factors.

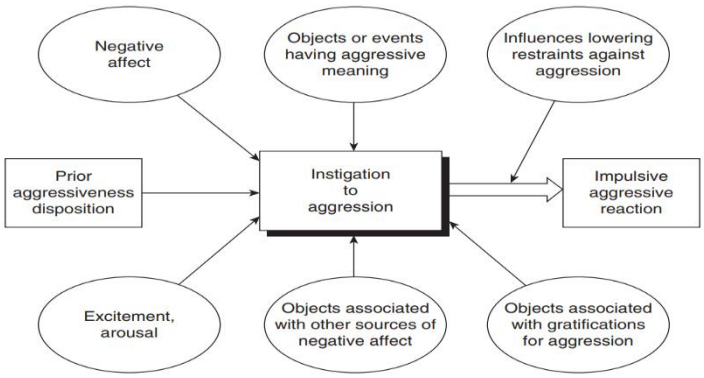

Figure 1. Influences affecting the magnitude of an impulsive aggressive reaction (Berkowitz, 2012)

In school settings, pre-existing aggressive tendencies such as impulsivity or hostile attribution bias may interact with negative emotions stemming from classroom frustrations, peer rejection, or embarrassment, and heightened arousal during exams or competitive activities can further amplify students' reactions to provocation. Aggressive cues, including bullying, teasing, or exposure to violent media, act as situational triggers, and stressors outside school, such as family conflict, can spill into the classroom to further increase vulnerability. At the same time, weak teacher supervision, unclear rules, peer norms that condone retaliation, and the reinforcement of aggression through peer approval or status gains reduce restraints on hostile behavior. When these influences converge, they increase the likelihood of impulsive aggressive reactions such as shouting, hitting, or bullying.

As synthesized by Jimerson, Hart, and Renshaw (2012), students who display antisocial and harmful behaviors in school often present early indicators such as *aggression, defiance, victimization, academic difficulties, and peer rejection* (White & Loeber, 2008). These students frequently exhibit *deficits in social competence, empathy, self-regulation, prosocial problem-solving, conflict resolution, and work habits* (Walker, Ramsey, & Gresham, 2004). They are less inclined to engage in teacher-pleasing behaviors and are more likely to endorse aggression as a means to achieve social goals.

Risk factors affecting school students' aggressive behavior

In order to capture the comprehensive range of factors contributing to student aggression, the risk factors are classified into four domains: *biological and trait-based, cognitive, situational, and social/environmental risk factors* (Fig. 2). This categorization enables a systematic examination of inherent predispositions, cognitive and emotional mechanisms, immediate environmental triggers, and broader social contexts, providing a coherent framework for understanding their interactions and informing targeted interventions.

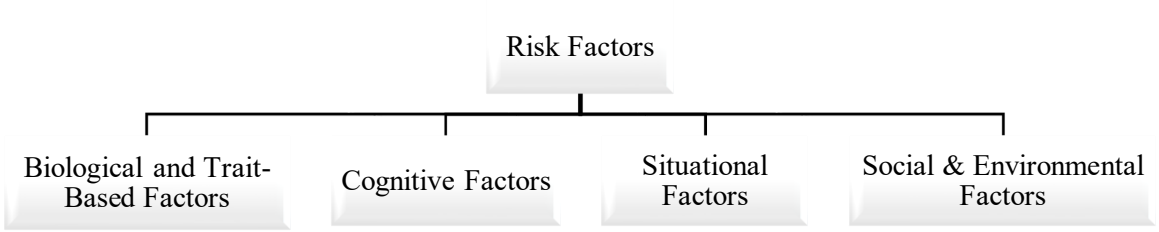

Figure 2. Risk factors affecting school students' aggressive behavior

Biological and trait-based factors

A substantial body of scholarship highlights the importance of biological and dispositional influences in shaping aggression. Ethological and psychoanalytic perspectives were among the first to frame aggression as an innate drive. Lorenz (1966) conceptualized aggression as instinctive, serving an evolutionary purpose by enabling individuals to defend resources or secure social dominance (Eibl-Eibesfeldt, 2017). Freud (1920/1955) similarly viewed aggression as rooted in an intrinsic death instinct (*Thanatos*), which could be displaced or sublimated into socially acceptable activities (Goldstein et al., 2013).

Advances in neuropsychology have offered more specific explanations of biological risk. Raine (2002) demonstrated that impairments in prefrontal cortical functioning, which diminish *self-regulatory capacity*, in combination with heightened limbic system activity that intensifies emotional reactivity, predispose individuals to impulsive aggression. Hormonal correlates, particularly fluctuations in testosterone and cortisol, have been associated with dominance-oriented aggression and stress reactivity. Dysfunctions in serotonergic regulation further amplify irritability and impulsive responses.

Beyond neurobiology, personality traits provide enduring markers of risk for aggression. Research using the Five-Factor Model consistently links *high neuroticism, low agreeableness, and low conscientiousness* to heightened aggressive tendencies (Dam et al., 2021; Chester & West, 2020), forming a profile of emotional volatility, antagonism, and poor impulse control. *Trait anger*, a stable tendency to experience frequent and intense anger, further amplifies risk by limiting self-regulation and promoting overreactions to minor provocations (Wilkowski & Robinson, 2008). Network analyses indicate that difficulties in anger regulation act as central nodes, activating and sustaining other aggressive traits (Chen et al., 2024). Although these biological and dispositional factors do not determine aggression, they establish a foundation of vulnerability that increases the likelihood of hostile behavior when cognitive biases, situational triggers, or social reinforcement are present.

Cognitive risk factors

Aggression arises not only from dispositional tendencies but also from the cognitive mechanisms through which individuals interpret and respond to social cues. One of the most extensively studied processes is *the hostile attribution bias*. Wilkowski and Robinson (2008) argue that individuals with high levels of trait anger are

predisposed to interpret ambiguous cues, such as accidental bumps or neutral facial expressions, as intentional provocations. This interpretive bias increases the likelihood of reactive aggression, as students perceive hostility where none was intended. *The General Aggression Model* (Bushman & Anderson, 2002) integrates this phenomenon, proposing that repeated exposure to aggression, whether through family, peers, or media, primes hostile expectations. These expectations create a cognitive environment in which aggressive responses appear both justified and inevitable.

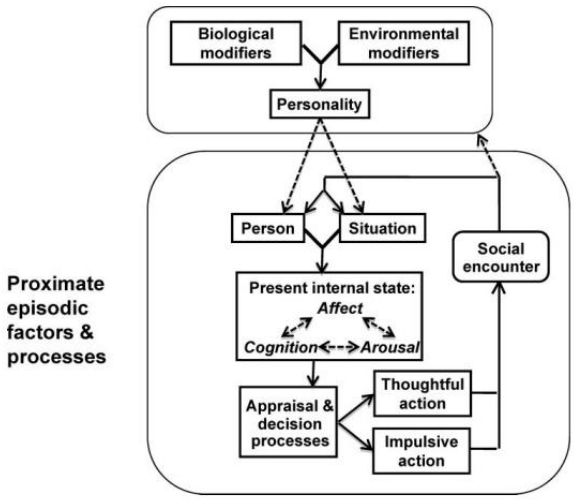

Figure 3. The General Aggression Model: Theoretical Extensions to Violence (DeWall, Anderson & Bushman, 2011)

The General Aggression Model illustrated in Figure 3 shows how aggression emerges from the dynamic interaction between personal and situational factors. Biological and environmental modifiers influence personality, which in turn shapes how a person interprets and reacts to situational cues. During a social encounter, internal states, comprising affect, cognition, and arousal, mediate responses, leading either to thoughtful or impulsive action through appraisal and decision-making processes. In the school context, this model helps explain how students' aggressive behavior arises when personal vulnerabilities such as trait anger or low self-regulation interact with stressful classroom situations, peer provocation, or perceived injustice. The model highlights that aggression in schools is not spontaneous but the result of interdependent cognitive, emotional, and situational processes that can be redirected through self-regulation training and supportive school climates.

Closely related are *aggressive scripts*, which serve as mental templates for responding to conflict. Huesmann (1988) first demonstrated that children acquire scripts through both *observational and enactive learning*. Observing peers, siblings, or media characters resolve disputes with aggression provides models that are encoded into memory. Over time, these scripts become automatic responses, guiding behavior without deliberation. Guerra and Huesmann (2004) expanded this account by proposing *a cognitive-ecological framework*, where aggressive scripts are reinforced in contexts where aggression is normative or rewarded. Such scripts do not simply encode actions; they also incorporate beliefs about the legitimacy of aggression and expectations about its outcomes.

Another important mechanism is *moral disengagement*, whereby individuals employ cognitive strategies to justify aggressive behavior, reframing it as deserved by the victim or inconsequential, thereby circumventing feelings of guilt and shame, allowing aggression to persist over time (Bandura, 2014), a process that can be further reinforced in school settings when peer groups legitimize retaliatory aggression in response to perceived disrespect.

Physiological arousal also plays a role in shaping cognitive responses. Zillmann's (2008) *excitation transfer theory* maintains that residual arousal from prior stressors carries over into subsequent interactions. When this lingering arousal is misattributed to new provocations, it can magnify emotional reactions, making students more likely to respond aggressively, which helps explain why reactions sometimes appear disproportionate to the immediate trigger. This heightened arousal interacts with frustration, which, according to the *frustration–aggression hypothesis* (Dollard et al., 1939), generates aggressive impulses when goal-directed behavior is blocked. Berkowitz (1989) refined this view by emphasizing that aggression arises primarily when frustration is accompanied by negative affect, and more recently, Kruglanski et al. (2023) argued that aggression is most likely when frustration threatens social significance, through experiences such as humiliation or rejection, positioning aggressive behavior as a means of restoring dignity and reasserting status.

Situational risk factors

School environments often contain stressors that can trigger hostility, particularly when students already display predispositions toward aggression. Berkowitz's (2012) Cognitive Neoassociation Theory emphasizes that aversive stimuli, such as *overcrowding, excessive noise, and elevated temperatures*, immediately activate

associative networks linked to aggression. These conditions heighten arousal and negative affect, biasing judgments toward hostility.

Another situational mechanism is deindividuation, originating with Le Bon's (1895) work on crowd psychology. In this state, anonymity and group immersion *reduce self-awareness and weaken adherence to social norms* (Spears, 2017). Mann, Newton, and Innes (1982) demonstrated that individuals were more aggressive when acting anonymously, and subsequent studies confirm that diminished accountability fosters antinormative behavior (Perfumi et al., 2019; Spears, 2017). In schools, deindividuation is particularly relevant in group contexts where students feel anonymous or supported by peers, facilitating collective bullying or retaliatory violence.

Acute experiences of strain also function as immediate situational risks. Agnew's (1992) General Strain Theory highlights that *academic failure, victimization, or perceived unfair treatment* generate negative emotions, especially anger, that increase the probability of aggression. These strains are especially potent when perceived as unjust, intense, and enduring, and when students lack adaptive coping resources. In the classroom, inconsistency in disciplinary practices or perceived favoritism by teachers can intensify anger, motivating retaliatory behavior.

Thus, situational risk factors provide the *proximal triggers* of aggression. By increasing arousal, reducing accountability, or generating anger through acute stress, they convert latent vulnerabilities into observable aggressive behaviors.

Social and environmental risk factors

Aggression does not emerge solely from immediate triggers but develops within broader contexts that extend beyond the classroom. These influences include *family environments, peer networks, institutional climates, and cultural norms,* all of which provide the conditions in which aggressive tendencies are either reinforced or inhibited. Chronic conditions such as *overcrowding, scarcity of resources, and physical disorder* act as long-term stressors. Rather than functioning as momentary triggers, these persistent circumstances cultivate irritability and hostility over time. In schools, ongoing competition for limited resources, whether material (books, technology) or social (teacher attention), can escalate conflict and normalize aggressive responses.

School climate is a central determinant of aggression at the institutional level. Agnew (1990) notes that schools characterized by *punitive approaches, inconsistent*

discipline, or weak collaboration among staff foster perceptions of alienation and injustice. When such climates persist, they reinforce chronic anger and hostility. Conversely, structured environments with clear expectations, prosocial norms, and conflict-resolution mechanisms serve as protective factors by modeling constructive responses to conflict.

Aggression is also socially learned and reinforced. Bandura's (2014) Social Cognitive Theory shows that students acquire aggressive scripts by *observing peers, family members, or media figures*. Through repeated exposure, these behaviors are internalized and strengthened via reinforcement mechanisms, such as gaining social dominance or avoiding punishment (Huesmann, 1988). Over time, aggressive responses become habitual, resistant to change, and transmitted across peer networks.

From a social interactionist perspective, violent behavior is driven by three main motives: *coercion, retribution, and self-presentation*. Individuals may resort to aggression to enforce compliance, punish those perceived as intentionally harmful, or defend their social image. Retaliatory acts often combine these motives, aiming to deter future aggression, restore justice, and protect one's honor, especially in the presence of others (Berg & Felson, 2020). Moreover, beyond peer interactions, *cultural and normative contexts* influence how aggression is perceived and legitimized. As Guerra and Huesmann (2004) observe, in environments where aggression is culturally approved or rewarded as a marker of identity, students tend to internalize aggressive behavioral scripts.

Conclusion

Aggressive behavior in educational contexts emerges from the interaction of biological predispositions, cognitive distortions, situational stressors, and social environments. At the individual level, genetic vulnerabilities, neurochemical imbalances, and maladaptive personality traits, such as high neuroticism, low agreeableness, or elevated trait anger, lower the threshold for hostile reactions and increase the likelihood of misinterpreting social cues. These vulnerabilities operate within cognitive–emotional processes, including hostile attribution biases, aggressive scripts learned from prior experiences, moral disengagement, and deficits in self-regulation, which determine whether frustration and anger are channeled constructively or expressed through aggressive behavior. At the situational level, triggers such as peer challenges, insufficient supervision, excessive noise, or competitive pressures increase arousal and reduce inhibitory control, providing immediate cues for aggressive responses. At the social and

institutional level, influences from peers, group dynamics, school climate, cultural norms, and institutional rules can either reinforce or inhibit aggressive behaviors, highlighting that aggression results from the complex interaction of individual, situational, and contextual factors rather than from a single cause.

Educational environments that reward retaliation, tolerate inconsistent discipline, or culturally valorize harshness normalize and sustain aggressive behavior, whereas spaces that promote tolerance, empathy, and inclusion establish normative barriers that reduce hostility and encourage prosocial responses. In particular, pedagogical contexts dedicated to foreign language learning provide opportunities to develop prosocial competencies, as they combine linguistic acquisition with exposure to diverse cultural perspectives and moral frameworks, fostering reflection on personal attitudes and behaviors, the development of tolerance, empathy, and ethical communication, and the reduction of aggressive or exclusionary behavior (Doğan, 2023). This development is supported through students' interaction with authentic materials, personal experiences, native speakers, and active engagement in foreign language lessons, as sensitivity to others' perspectives, respect for diversity, and tolerance of ambiguity are essential for intercultural language learning (Kohonen et al., 2014). Intercultural dialogue, as defined by UNESCO, is a transformative process of communication between cultures based on mutual respect and empathy, providing a framework for building trust and collaboratively addressing shared challenges, thereby supporting the development of prosocial dispositions in the school context (UNESCO, n.d.).

Analysis of the complexity of aggressive behavior indicates that interventions focused solely on individual traits or isolated triggers are insufficient. Effective strategies for addressing such behavior involve strengthening emotional self-regulation, challenging cognitive distortions, fostering tolerance, cultivating a positive school climate, and reforming social norms that support aggression. Within this framework, students' engagement in foreign language lessons through narratives, dialogues, and collaborative tasks operates as a pedagogical mechanism that facilitates the interpretation of affective states, the respectful negotiation of meanings, and the assumption of responsibility for individual contributions, thereby fostering moral awareness and prosocial dispositions (Doğan, 2023) and contributing to the establishment of harmonious and ethically oriented interactions within educational environments.

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