

# السلوك العدواني لدى طلاب المرحلة الثانوية في سياق الضغوط النفسية

## Aggressive Behavior among Secondary School Students in the Context of Psychological Stress

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### الملخص

هدفت هذه الدراسة إلى التعرف على السلوك العدواني لدى طلاب المرحلة الثانوية في لبنان في سياق الضغوط النفسية. اعتمدت الدراسة المنهج الوصفي الارتباطي، وتكوّنت العينة من (100) مراهق ومراهقة بواقع (50) ذكرًا و(50) أنثى، تتراوح أعمارهم بين (15-18) سنة. تم جمع البيانات باستخدام مقياس الضغوط النفسية ومقياس السلوك العدواني، حيث أظهرت الأدوات مستويات مقبولة من الصدق والثبات. أظهرت النتائج أن مستوى الضغوط النفسية لدى الطلبة كان متوسطاً إلى مرتفع، في حين جاء مستوى السلوك العدواني متوسطاً. كما أظهرت نتائج معامل ارتباط بيرسون وجود علاقة ارتباطية موجبة دالة إحصائياً بين الضغوط النفسية والسلوك العدواني ( $r = 0.49, p < 0.01$ ). وأشارت نتائج تحليل الانحدار إلى أن الضغوط النفسية تُعد متغيراً متنبئاً بالسلوك العدواني، حيث فسرت ما نسبته (24%) من التباين في السلوك العدواني. كما أظهرت النتائج وجود فروق دالة إحصائياً في السلوك العدواني تبعاً لمتغير الجنس لصالح الذكور، في حين لم تظهر فروق في الضغوط النفسية. تؤكد نتائج الدراسة الدور المحوري للضغوط النفسية في تشكيل السلوك العدواني لدى المراهقين، خاصة في البيئات المتأثرة بالأزمات مثل لبنان، مما يستدعي تطوير برامج تدخل نفسي مدرسي تركز على إدارة الضغوط وتنمية مهارات التكيف.

**الكلمات المفتاحية:** الضغوط النفسية، السلوك العدواني، المراهقون، لبنان، البيئة المدرسية.

### Abstract:

This study aimed to examine aggressive behavior among secondary school students in Lebanon within the context of psychological stress. A descriptive correlational design was employed, and the study sample consisted of 100 adolescents (50 males and 50 females) aged between 15 and 18 years. Data were collected using a Psychological Stress Scale and an Aggressive Behavior Scale, both demonstrating satisfactory validity and reliability.

The results indicated that participants reported moderate to high levels of psychological stress and moderate levels of aggressive behavior. Pearson correlation analysis revealed a statistically significant positive relationship between psychological stress and aggressive behavior ( $r = 0.49, p < 0.01$ ). Furthermore, regression analysis showed that psychological stress significantly predicted aggressive behavior, explaining approximately 24% of its variance. Gender differences were found in aggressive behavior, with males exhibiting higher levels than females, while no significant differences were observed in psychological stress.

The findings highlight the central role of psychological stress in shaping aggressive behavior among adolescents, particularly within crisis-affected contexts such as Lebanon. The study underscores the importance of addressing underlying stressors through school-based psychosocial interventions and promoting adaptive coping strategies to reduce aggressive tendencies.

**Keywords :** Psychological Stress, Aggressive Behavior, Adolescents, Lebanon, School Context.

## Introduction

Adolescence represents a critical developmental stage marked by significant biological, psychological, and social changes, during which individuals become increasingly sensitive to environmental stressors and emotional challenges. This heightened sensitivity often places adolescents at greater risk for behavioral disturbances, particularly in contexts characterized by sustained psychological stress (Compas et al., 2017; Romeo, 2017). Among these disturbances, aggressive behavior has emerged as a prominent concern in both educational and mental health domains due to its detrimental effects on individual adjustment, peer relationships, and school climate (Lansford, 2018).

Aggressive behavior is commonly defined as any action intended to harm others, whether physically, verbally, or psychologically. It encompasses multiple dimensions, including physical aggression, verbal hostility, and anger, and is increasingly understood as a multifaceted construct influenced by emotional, cognitive, and environmental factors (Anderson & Bushman, 2002; Liu & Lewis, 2021). Contemporary perspectives emphasize that aggression during adolescence is not merely a behavioral problem but often reflects underlying psychological distress and maladaptive coping mechanisms (Calvete et al., 2021).

Psychological stress, on the other hand, refers to the individual's perception of an imbalance between environmental demands and their available coping resources. In adolescence, stress may arise from various sources, including academic pressures, family conflict, peer relationships, and broader societal conditions. Empirical evidence has consistently demonstrated that elevated levels of psychological stress are associated with increased emotional dysregulation, irritability, and impulsivity, which may, in turn, manifest as aggressive behavior (Kim & Kim, 2022; Farrell et al., 2022).

Recent research has increasingly focused on the relationship between stress and aggression, highlighting stress as a key predictor of externalizing behaviors among adolescents. Studies have shown that exposure to chronic or cumulative stressors significantly increases the likelihood of aggressive responses, particularly when adolescents lack effective emotion regulation strategies (Evans et al., 2013; Liu & Lewis, 2021). Moreover, findings indicate that emotional distress mediates the relationship between stress and aggression, suggesting that aggression may serve as an external expression of internal psychological strain (Calvete et al., 2021).

In contexts affected by socio-economic and political instability, the impact of psychological stress on adolescent behavior becomes even more pronounced. Adolescents living in crisis-affected environments are exposed to persistent uncertainty, disrupted routines, and reduced access to psychosocial support, all of which contribute to heightened stress levels and increased vulnerability to maladaptive behavioral outcomes (UNICEF, 2023; World Health Organization, 2022). This is particularly relevant in Lebanon, where adolescents have experienced multiple overlapping crises over recent years, including economic collapse, educational disruption, and social instability (World Bank, 2023; UNICEF Lebanon, 2022).

Despite the growing international literature on adolescent stress and aggression, there remains a lack of empirical studies examining this relationship within the Lebanese context. Most existing research has been conducted in Western or Asian settings, which may not adequately capture the unique socio-cultural and crisis-related dynamics influencing adolescent behavior in Lebanon. Furthermore, limited attention has been given to examining both the prevalence of psychological stress and its predictive role in shaping aggressive behavior among secondary school students.

Accordingly, the present study aims to investigate aggressive behavior among secondary school students in Lebanon within the context of psychological stress. Specifically, it seeks to assess the levels of psychological stress and aggressive behavior, examine the relationship between these variables, and determine the extent to which psychological stress predicts aggressive behavior among adolescents. By addressing this gap, the study contributes to a deeper understanding of adolescent behavioral responses in crisis contexts and provides evidence that may inform targeted school-based interventions and mental health support programs.

### **Problem Statement**

Adolescents in contemporary societies are increasingly exposed to multiple sources of psychological stress, which may significantly influence their emotional and behavioral functioning. Within school settings, aggressive behavior has become a growing concern due to its negative implications for students' academic adjustment, peer interactions, and overall psychosocial well-being (Lansford, 2018; Liu & Lewis, 2021). Although aggression is often addressed as a disciplinary issue, recent research suggests that it is more accurately understood as a behavioral manifestation of underlying psychological distress, particularly in contexts of sustained stress (Calvete et al., 2021; Kim & Kim, 2022).

In crisis-affected environments, the relationship between psychological stress and aggression becomes more complex and pronounced. Exposure to cumulative stressors—such as economic instability, disrupted education, and social uncertainty—may overwhelm adolescents' coping capacities and increase the likelihood of maladaptive behavioral responses, including aggression (Evans et al., 2013; UNICEF, 2023). This is particularly relevant in Lebanon, where adolescents have experienced prolonged and overlapping crises that have significantly impacted their daily lives and mental health (World Bank, 2023; UNICEF Lebanon, 2022).

Despite the theoretical and empirical recognition of the link between stress and aggression, there remains a notable gap in context-specific research examining this relationship among secondary school students in Lebanon. Existing studies have largely focused on other cultural contexts, limiting the applicability of their findings to Lebanese adolescents, who are exposed to unique socio-economic and environmental stressors. Moreover, there is a lack of empirical evidence exploring both the levels of psychological stress and aggressive behavior, as well as the predictive role of stress in shaping aggressive responses within school environments.

Accordingly, the current study seeks to address this gap by investigating aggressive behavior among secondary school students in Lebanon within the context of psychological stress. It aims to provide empirical evidence on the relationship between these variables and to examine the extent to which psychological stress contributes to the development of aggressive behavior among adolescents.

### **Research Questions**

1. What are the levels of psychological stress among secondary school students in Lebanon?
2. What are the levels of aggressive behavior among secondary school students?
3. Is there a statistically significant relationship between psychological stress and aggressive behavior among adolescents?
4. To what extent does psychological stress predict aggressive behavior among secondary school students?

### **Research Hypotheses**

H1: There is a statistically significant positive correlation between psychological stress and aggressive behavior among secondary school students.

H2: Psychological stress significantly predicts aggressive behavior among adolescents.

H3: There are statistically significant differences in aggressive behavior based on gender among secondary school students.

H4: There are statistically significant differences in psychological stress based on gender.

### **Significance of the Study**

This study holds both theoretical and practical significance. Theoretically, it contributes to the existing literature by providing empirical evidence on the relationship between psychological stress and aggressive behavior within a crisis-affected context, thereby extending current models of adolescent behavioral responses to stress (Compas et al., 2017; Liu & Lewis, 2021). It also supports contemporary perspectives that conceptualize aggression as an externalizing manifestation of internal psychological distress (Calvete et al., 2021).

Practically, the findings of this study may inform the development of school-based psychological interventions aimed at reducing aggressive behavior by addressing underlying stressors. Understanding the role of psychological stress in shaping adolescent behavior can assist educators, school counselors, and policymakers in designing targeted prevention and intervention programs that promote emotional regulation and adaptive coping strategies. Furthermore, the study provides context-specific evidence that may guide mental health

initiatives tailored to adolescents in Lebanon, particularly in light of ongoing societal challenges (UNICEF, 2023).

## Literature Review

### 1. Theoretical Conceptualization of Aggressive Behavior in Adolescence

Aggressive behavior in adolescence is a multidimensional construct that has been extensively examined across psychological, developmental, and behavioral sciences. It is commonly defined as behavior intended to harm others, whether physically, verbally, or relationally, and is typically categorized into reactive and proactive forms. Reactive aggression is impulsive, emotionally driven, and often emerges in response to perceived threat or frustration, whereas proactive aggression is deliberate, instrumental, and goal-oriented (Anderson & Bushman, 2002; Lansford, 2018). This distinction is crucial, as it reflects fundamentally different underlying psychological mechanisms and developmental trajectories.

Contemporary theoretical frameworks, particularly the General Aggression Model (GAM), provide a comprehensive lens for understanding aggressive behavior. According to this model, aggression is not the result of a single factor but emerges from the dynamic interaction between personal variables (e.g., cognitive schemas, emotional states, personality traits) and situational inputs (e.g., stressors, environmental pressures). These factors jointly influence internal states—comprising affect, cognition, and arousal—which, in turn, shape appraisal and decision-making processes that lead to either aggressive or non-aggressive behavioral outcomes (Anderson & Bushman, 2002; Allen et al., 2018). Within this framework, repeated exposure to adverse conditions, such as chronic stress, may gradually reinforce aggressive scripts and increase the likelihood of aggressive responses over time.

From a developmental perspective, adolescence represents a period of heightened vulnerability to aggressive behavior due to ongoing neurobiological and psychosocial changes. During this stage, the maturation of brain structures involved in emotional processing, particularly the limbic system, outpaces the development of the prefrontal cortex, which is responsible for executive control and behavioral regulation. This neurodevelopmental imbalance contributes to increased emotional reactivity, impulsivity, and reduced capacity for inhibitory control, thereby elevating the likelihood of aggressive responses, especially in stressful situations (Romeo, 2017; Steinberg, 2014).

In addition to neurobiological factors, cognitive and social processes play a central role in shaping aggressive behavior. Social information processing theory suggests that adolescents who interpret ambiguous social cues as hostile are more likely to respond aggressively, a phenomenon known as hostile attribution bias (Dodge & Crick, 1990). This bias is often reinforced by prior experiences, environmental stressors, and learned behavioral patterns, making aggression a conditioned response in certain contexts. Furthermore, adolescents exposed to inconsistent parenting, peer rejection, or violent environments may develop maladaptive cognitive schemas that normalize or justify aggressive behavior (Liu & Lewis, 2021).

Emotion regulation is another critical mechanism underlying adolescent aggression. Research indicates that deficits in emotion regulation—particularly difficulties in managing anger and frustration—are strongly associated with increased aggressive behavior. Adolescents who lack adaptive coping strategies are more likely to externalize their distress through aggression rather than regulate it internally (Compas et al., 2017; Calvete et al., 2021). In this sense, aggression can be conceptualized as an external manifestation of internal dysregulation, rather than merely a behavioral problem.

Moreover, ecological and contextual perspectives further highlight the role of environmental systems in shaping aggressive behavior. According to ecological systems theory, adolescent behavior is influenced by multiple interconnected systems, including family, school, peers, and broader socio-cultural contexts (Bronfenbrenner, 1979). Stressful environments—characterized by instability, conflict, or limited support—can intensify aggressive tendencies by increasing emotional strain and reducing access to protective factors. In such contexts, aggression may serve as a maladaptive coping mechanism or a means of asserting control in the face of uncertainty.

Importantly, contemporary research increasingly frames adolescent aggression within a stress-response paradigm, where aggression is understood as a behavioral outcome of accumulated psychological pressure. This perspective aligns with both frustration-aggression theory and stress-coping models, which posit that when individuals experience persistent stress without adequate coping resources, they are more likely to exhibit externalizing behaviors such as aggression (Evans et al., 2013; Liu & Lewis, 2021). Accordingly, aggression in adolescence should not be interpreted solely as misconduct or deviance, but rather as a complex outcome of interacting neurobiological, cognitive, emotional, and environmental processes.

## **2. Psychological Stress in Adolescence**

Psychological stress refers to the individual's perception that environmental demands exceed their available coping resources, resulting in a state of emotional and physiological strain. This definition emphasizes that stress is not merely an objective condition, but rather a subjective experience shaped by cognitive appraisal processes, through which individuals evaluate both the nature of stressors and their capacity to respond effectively (Compas et al., 2017). Accordingly, two adolescents exposed to similar circumstances may experience markedly different levels of stress depending on their appraisal styles, coping skills, and available support systems.

During adolescence, exposure to psychological stress becomes particularly salient due to the convergence of developmental, social, and environmental challenges. Adolescents must navigate increasing academic demands, evolving peer relationships, identity formation processes, and shifting family expectations, all while adapting to broader socio-economic pressures. These multiple and often overlapping demands contribute to what has been described as cumulative or chronic stress, which is more detrimental than acute stress due to its persistent and compounding nature (Evans et al., 2013).

From a developmental standpoint, adolescents are especially vulnerable to stress because of ongoing neurobiological and psychological maturation. The cognitive systems responsible for evaluating and regulating stress—such as executive functioning and emotional control—are still developing, which may limit adolescents' ability to employ adaptive coping strategies under pressure (Romeo, 2017). As a result, stress responses during adolescence tend to be more intense, less regulated, and more likely to manifest in maladaptive ways compared to adulthood.

Importantly, contemporary research highlights that psychological stress in adolescence is closely linked to emotional dysregulation. Adolescents experiencing high levels of stress often report difficulties in managing negative emotions, particularly anger, frustration, and anxiety. These difficulties are associated with increased impulsivity and reduced behavioral inhibition, which are key mechanisms underlying externalizing behaviors such as aggression (Kim & Kim, 2022; Liu & Lewis, 2021). In this sense, stress does not operate in isolation but interacts with emotional and cognitive processes that shape behavioral outcomes.

Furthermore, stress in adolescence is increasingly conceptualized within a transactional framework, where individuals and their environments continuously influence one another. According to this perspective, stress is not only a reaction to external demands but also a product of ongoing interactions between the individual and their social context. For instance, adolescents who lack supportive relationships or who are exposed to conflictual environments may experience heightened stress levels, which in turn affect their perceptions, emotional responses, and behavior (Compas et al., 2017).

Recent empirical findings reinforce the central role of chronic stress in shaping adolescent functioning. Studies indicate that adolescents exposed to sustained stress report higher levels of emotional overload, uncertainty, and perceived lack of control, all of which undermine adaptive functioning and psychological well-being (Calvete et al., 2021). Moreover, chronic stress has been associated with long-term alterations in stress-response systems, including dysregulation of physiological processes such as cortisol secretion, which may further exacerbate emotional instability and behavioral reactivity (Romeo, 2017).

In addition, contextual factors play a critical role in intensifying adolescent stress. Socio-economic hardship, educational disruption, and social instability have been identified as key stressors that significantly impact adolescent mental health. In crisis-affected settings, where uncertainty and instability are prolonged, adolescents are exposed to continuous stress without adequate opportunities for recovery, thereby increasing the risk of maladaptive psychological and behavioral outcomes (UNICEF, 2023; World Health Organization, 2022).

Taken together, psychological stress in adolescence can be understood as a complex, multidimensional phenomenon shaped by developmental vulnerabilities, cognitive appraisal processes, emotional regulation capacities, and environmental conditions. Its impact extends beyond internal emotional experiences to influence behavioral patterns, particularly when stress becomes chronic and coping resources are insufficient. This conceptualization provides

a critical foundation for understanding how stress may contribute to aggressive behavior among adolescents, especially within high-risk and crisis-affected contexts.

### **3. The Relationship between Psychological Stress and Aggressive Behavior**

The relationship between psychological stress and aggressive behavior represents one of the most robust and consistently supported associations in adolescent psychology. This relationship is not merely correlational but reflects a complex interplay of emotional, cognitive, and environmental mechanisms that shape behavioral responses during a developmentally sensitive period. At its core, this association can be theoretically grounded in the Frustration–Aggression Theory, which posits that aggression arises when individuals experience frustration due to blocked goals or unmet needs (Dollard et al., 1939). In contemporary contexts, psychological stress can be conceptualized as a chronic and pervasive form of frustration, wherein adolescents are repeatedly exposed to demands that exceed their coping capacities, thereby increasing the likelihood of aggressive responses.

However, modern theoretical perspectives extend beyond this classical explanation by emphasizing the mediating role of internal regulatory processes. Within the framework of the General Aggression Model, psychological stress influences aggressive behavior indirectly by altering internal states, including affect (e.g., anger, irritability), cognition (e.g., hostile thoughts), and physiological arousal. These internal changes bias adolescents' appraisal of social situations, making them more likely to interpret ambiguous interactions as threatening and to respond aggressively (Anderson & Bushman, 2002; Allen et al., 2018). Thus, stress does not simply trigger aggression; rather, it reshapes the way adolescents perceive and respond to their environment.

Empirical research provides substantial support for this multidimensional relationship. Studies consistently demonstrate that higher levels of perceived stress are associated with increased aggressive behavior among adolescents, with moderate to strong effect sizes reported across diverse populations (Farrell et al., 2022). Importantly, recent findings indicate that this relationship is often mediated by deficits in impulse control and emotional regulation. Adolescents experiencing elevated stress levels tend to exhibit reduced inhibitory control, heightened emotional reactivity, and difficulties in managing anger, all of which contribute to aggressive responses (Kim & Kim, 2022; Calvete et al., 2021). In this regard, aggression can be understood as an outcome of regulatory failure under conditions of psychological overload.

Longitudinal studies further strengthen this evidence by demonstrating that the impact of stress on aggression is not limited to immediate reactions but extends over time. Adolescents exposed to chronic stress are more likely to develop stable patterns of aggressive behavior, including both reactive and proactive forms (Liu & Lewis, 2021). This suggests that repeated exposure to stress may reinforce aggressive behavioral scripts, making aggression an increasingly habitual response rather than a situational reaction. Over time, such patterns may become embedded within the adolescent's behavioral repertoire, particularly in environments where stressors remain unresolved.

Moreover, recent research conducted in post-crisis and post-pandemic contexts has highlighted the intensified nature of this relationship under conditions of prolonged disruption. Adolescents exposed to social isolation, uncertainty, and disrupted routines report higher levels of stress, which are significantly associated with increased aggression, risk-taking, and deviant behaviors (UNICEF, 2023). These findings underscore the importance of considering contextual factors, as the impact of stress on behavior is amplified in environments characterized by instability and limited support systems.

In addition to direct effects, the relationship between stress and aggression is shaped by a network of interacting risk and protective factors. Internal variables such as low self-control, negative affectivity, and maladaptive cognitive schemas may increase vulnerability to aggression under stress. At the same time, external factors—including family conflict, peer influence, and exposure to violence—can exacerbate stress levels and normalize aggressive responses (Evans et al., 2013; Liu & Lewis, 2021). Within this ecological framework, psychological stress operates as a central risk factor that interacts with other vulnerabilities to produce aggressive outcomes.

Importantly, emerging perspectives emphasize that aggression in adolescence should not be viewed solely as intentional harm but also as a form of maladaptive coping. When adolescents lack effective strategies to regulate their emotions or manage stress, aggression may serve as an immediate, albeit dysfunctional, means of releasing internal tension or asserting control over challenging situations (Compas et al., 2017). This interpretation shifts the focus from punishment to understanding, highlighting the need for interventions that address underlying stressors rather than merely suppressing aggressive behavior.

Taken together, the relationship between psychological stress and aggressive behavior can be understood as a dynamic and multifaceted process involving cognitive appraisal, emotional regulation, neurobiological sensitivity, and environmental influences. Stress acts as both a trigger and a sustaining factor for aggression, particularly when it becomes chronic and interacts with developmental vulnerabilities. This integrated perspective provides a strong theoretical and empirical foundation for examining aggression among adolescents, especially within high-risk contexts where stress exposure is persistent and pervasive.

#### **4. Contextual and Environmental Influences on Aggression**

The relationship between psychological stress and aggressive behavior becomes more pronounced when examined within broader contextual and environmental frameworks. Aggression in adolescence cannot be fully understood without considering the ecological conditions in which individuals are embedded. According to ecological systems theory, adolescent development is shaped by multiple, interacting layers of influence, ranging from immediate environments such as family and school to broader socio-economic and cultural contexts (Bronfenbrenner, 1979). Within this framework, environmental stressors do not merely act as background conditions but actively shape adolescents' emotional experiences, cognitive interpretations, and behavioral responses.

In contexts characterized by instability and crisis, environmental stressors become more frequent, intense, and chronic. Factors such as economic hardship, exposure to community violence, political instability, and educational disruption contribute to sustained psychological strain, which significantly increases the likelihood of aggressive behavior among adolescents (Evans et al., 2013; UNICEF, 2023). These stressors often operate cumulatively, meaning that their combined impact is greater than the sum of individual effects. Adolescents exposed to multiple risk conditions are therefore more vulnerable to maladaptive outcomes, particularly when protective resources are limited.

Importantly, environmental adversity not only elevates stress levels but also constrains access to protective factors that could buffer its effects. In stable contexts, social support from family, peers, and school institutions plays a critical role in mitigating stress and promoting adaptive coping. However, in crisis-affected environments, these support systems are often weakened or disrupted, leaving adolescents with fewer resources to manage stress effectively (World Health Organization, 2022). As a result, aggression may emerge as a compensatory or defensive response, reflecting attempts to cope with overwhelming emotional and situational demands.

Family dynamics represent one of the most influential proximal factors shaping adolescent aggression. Research indicates that adolescents exposed to family conflict, harsh parenting, or inconsistent discipline are more likely to develop aggressive tendencies, particularly when such environments are combined with external stressors (Liu & Lewis, 2021). These family conditions not only increase stress but also model maladaptive behavioral responses, thereby reinforcing aggression as an acceptable or functional strategy for dealing with conflict.

Peer relationships also play a critical role in the development and maintenance of aggressive behavior. During adolescence, peers become a primary source of social influence, and peer norms can either exacerbate or mitigate aggressive tendencies. Exposure to deviant peer groups, peer rejection, or bullying has been consistently associated with increased aggression, particularly in high-stress contexts (Farrell et al., 2022). Moreover, peer environments may normalize aggressive behavior, especially when aggression is perceived as a means of gaining status, protection, or social recognition.

In addition to direct social influences, contemporary research highlights the growing role of media and digital environments in shaping aggressive behavior. Exposure to violent media content, including social media and online platforms, has been associated with increased aggressive cognitions and desensitization to violence. When combined with psychological stress, such exposure may further intensify aggressive responses by reinforcing hostile interpretations of social interactions (Anderson & Bushman, 2002).

From a broader perspective, socio-economic conditions exert a powerful influence on adolescent behavior. Economic instability, unemployment, and limited access to educational resources contribute to chronic stress and reduced opportunities for positive development. In such contexts, aggression may emerge as a response to perceived injustice, lack of control, or diminished future prospects (Evans et al., 2013). This is particularly relevant in settings where

structural challenges are persistent, as adolescents may internalize these conditions as part of their lived experience.

Crucially, the interaction between environmental stressors and individual vulnerabilities determines the extent to which aggression develops. Not all adolescents exposed to adversity exhibit aggressive behavior; rather, outcomes depend on the balance between risk and protective factors. Adolescents with stronger coping skills, supportive relationships, and adaptive cognitive patterns are more likely to regulate their responses effectively, even in stressful environments (Compas et al., 2017). Conversely, those with limited resources are more susceptible to externalizing behaviors.

Taken together, these findings underscore that aggression in adolescence is not solely an individual phenomenon but a contextually embedded response shaped by environmental conditions. Psychological stress acts as a central mechanism linking contextual adversity to aggressive behavior, while environmental factors determine both the intensity of stress and the availability of coping resources. Understanding this interplay is essential for developing effective interventions that address not only individual behavior but also the broader environmental conditions that sustain it.

## **5. Critical Synthesis and Research Gap**

Despite the growing body of theoretical and empirical literature examining the relationship between psychological stress and aggressive behavior among adolescents, several critical limitations remain evident, warranting further investigation. While existing studies have significantly advanced understanding of the mechanisms underlying adolescent aggression, they often fall short in capturing the complexity and contextual variability of this relationship.

First, a considerable proportion of the existing research has been conducted in Western and, to a lesser extent, Asian contexts, which raises concerns regarding the generalizability of findings to Middle Eastern populations. Cultural norms, parenting practices, social expectations, and exposure to socio-political stressors differ substantially across regions, influencing both the experience of stress and the expression of aggression. Consequently, applying findings derived from relatively stable or culturally distinct contexts to adolescents in Lebanon may overlook critical contextual nuances (Liu & Lewis, 2021; UNICEF, 2023). This underscores the need for context-sensitive research that reflects the lived experiences of adolescents in crisis-affected societies.

Second, much of the existing literature tends to adopt a fragmented approach by focusing on specific forms of aggression—such as cyber aggression or physical aggression—or on isolated psychological constructs, rather than examining aggression as a comprehensive behavioral outcome. Similarly, studies often investigate discrete stressors (e.g., academic stress or family stress) without considering the cumulative and interactive nature of stress experienced by adolescents. This reductionist perspective limits the ability to understand how generalized psychological stress, as a multidimensional construct, contributes to overall aggressive behavior (Farrell et al., 2022). Moreover, while some studies have explored mediating and moderating variables, fewer have directly examined the predictive role of

psychological stress in shaping aggressive behavior within naturalistic school settings, where adolescents spend a significant portion of their daily lives.

Third, there is a notable scarcity of empirical research addressing adolescent behavior within contexts characterized by prolonged and overlapping crises. Much of the literature assumes relatively stable environmental conditions, thereby overlooking the compounded effects of chronic instability on psychological functioning. In contexts such as Lebanon, adolescents are exposed to cumulative stressors, including economic collapse, educational disruption, and social uncertainty, which interact in complex ways to influence both emotional regulation and behavioral outcomes (World Bank, 2023; UNICEF Lebanon, 2022). These conditions not only intensify psychological stress but may also normalize maladaptive coping strategies, including aggression, as part of everyday adaptation.

In addition to these gaps, there is limited integration between theoretical models and empirical investigations. While frameworks such as the General Aggression Model and stress-coping theories provide valuable explanatory mechanisms, few studies have explicitly tested these models within high-risk, real-world contexts. This disconnect between theory and application highlights the need for research that not only describes relationships but also empirically examines theoretically grounded pathways linking stress and aggression.

Furthermore, the majority of studies rely on cross-sectional designs, which, although useful for identifying associations, limit the ability to infer directional or predictive relationships. There remains a need for studies that explicitly examine the extent to which psychological stress predicts aggressive behavior, thereby moving beyond correlation toward a more explanatory understanding of adolescent behavior.

Taken together, these limitations reveal a clear research gap characterized by the lack of context-specific, integrative, and predictive studies examining the relationship between psychological stress and aggressive behavior among adolescents, particularly within crisis-affected environments.

### **Conclusion of Literature Review**

In light of the theoretical frameworks and empirical findings reviewed, it is evident that psychological stress constitutes a central and multifaceted factor in shaping aggressive behavior during adolescence. Aggression emerges not merely as a behavioral outcome but as a complex response influenced by cognitive appraisal processes, emotional regulation capacities, neurodevelopmental characteristics, and environmental conditions. The interaction between these factors becomes particularly salient in contexts marked by chronic stress and limited coping resources.

However, despite the strength of existing theoretical and empirical contributions, the relationship between psychological stress and aggressive behavior remains insufficiently explored within culturally specific and crisis-affected contexts, particularly in Lebanon. The absence of localized empirical evidence limits the ability to fully understand how adolescents

navigate stress and how such experiences translate into behavioral outcomes within their unique socio-cultural environment.

Accordingly, the present study seeks to address this gap by investigating aggressive behavior among secondary school students in Lebanon within the context of psychological stress. Specifically, it aims to assess the levels of psychological stress and aggressive behavior, examine the relationship between these variables, and determine the predictive role of psychological stress in shaping aggressive behavior among adolescents. By doing so, the study contributes to bridging the gap between theory and context, while providing evidence that may inform culturally relevant and context-sensitive interventions.

## **Methodology**

### **Research Design**

The present study employed a descriptive correlational research design, which is appropriate for examining the relationship between psychological stress and aggressive behavior among adolescents. This design allows for the identification of associations between variables and the assessment of the predictive role of psychological stress in explaining aggressive behavior within a naturalistic school context.

### **Participants**

The study sample consisted of 100 adolescents (male and female) enrolled in secondary schools in Lebanon. Participants were selected using a stratified random sampling technique to ensure representation across gender.

- Total sample size: 100 students
- Age range: 15–18 years
- Gender distribution:
  - Males: 50 (50%)
  - Females: 50 (50%)

All participants were attending secondary-level education at the time of data collection and were exposed to similar socio-educational conditions.

## **Instruments**

### **1. Psychological Stress Scale**

Psychological stress was assessed using an adapted self-report scale grounded in the theoretical framework of adolescent stress and coping (Compas et al., 2017). The scale was designed to capture the multidimensional nature of stress experienced during adolescence.

### **Scale Description**

The scale consists of 25 items distributed across three main domains:

- Academic stress (e.g., academic demands, examinations)
- Family-related stress (e.g., expectations, conflicts)
- Social stress (e.g., peer pressure, social relationships)

Participants responded using a five-point Likert scale ranging from (1) *Strongly Disagree* to (5) *Strongly Agree*, where higher scores indicate higher levels of perceived psychological stress.

#### -Construct Validity of the Psychological Stress Scale

Construct validity was assessed through **item-total correlations**, examining the degree to which each item correlates with the total score of the scale.

**Table 1: Item-Total Correlations for the Psychological Stress Scale (n = 100)**

Item Number	Correlation (r)	Item Number	Correlation (r)
1	0.52	13	0.60
2	0.57	14	0.58
3	0.60	15	0.57
4	0.55	16	0.65
5	0.63	17	0.61
6	0.58	18	0.59
7	0.61	19	0.63
8	0.59	20	0.56
9	0.54	21	0.60
10	0.62	22	0.62
11	0.56	23	0.58
12	0.64	24	0.61
		25	0.59

*All correlations are statistically significant at  $p < 0.01$ , indicating strong construct validity.*

## Reliability of the Psychological Stress Scale

**Table 2: Reliability Coefficient for the Psychological Stress Scale**

Scale	Number of Items	Cronbach's Alpha
Psychological Stress	25	0.86

The obtained Cronbach's alpha indicates high internal consistency.

## 2. Aggressive Behavior Scale

Aggressive behavior was measured using a structured self-report scale adapted from established theoretical and empirical models of aggression (Anderson & Bushman, 2002; Liu & Lewis, 2021). The scale captures both emotional and behavioral expressions of aggression.

### -Scale Description

The scale consists of 20 items distributed across three dimensions:

- Physical aggression
- Verbal aggression
- Anger

Responses were recorded using a five-point Likert scale ranging from (1) *Strongly Disagree* to (5) *Strongly Agree*, with higher scores reflecting higher levels of aggressive behavior.

### - Construct Validity of the Aggressive Behavior Scale

Construct validity was assessed through item-total correlations.

**Table 3 :Item-Total Correlations for the Aggressive Behavior Scale (n = 100)**

Item Number	Correlation (r)	Item Number	Correlation (r)
1	0.55	11	0.58
2	0.60	12	0.65
3	0.62	13	0.62
4	0.58	14	0.59
5	0.64	15	0.61
6	0.59	16	0.63

Item Number	Correlation (r)	Item Number	Correlation (r)
7	0.61	17	0.60
8	0.57	18	0.58
9	0.63	19	0.64
10	0.60	20	0.61

*All correlations are statistically significant at  $p < 0.01$ , indicating acceptable construct validity.*

### **-Reliability of the Aggressive Behavior Scale**

**Table 4 :Reliability Coefficient for the Aggressive Behavior Scale**

Scale	Number of Items	Cronbach's Alpha
Aggressive Behavior	20	0.88

The reliability coefficient reflects high internal consistency.

## **Results**

### **1. Descriptive Statistics**

Descriptive statistics were computed to determine the levels of psychological stress and aggressive behavior among secondary school students.

**Table 5 :Means and Standard Deviations of Study Variables (n = 100)**

Variable	Mean	Standard Deviation	Level
Psychological Stress	3.61	0.69	Moderate–High
Aggressive Behavior	3.17	0.64	Moderate

### **Interpretation**

The results indicate that the level of psychological stress among adolescents is moderate to high, reflecting the presence of considerable stressors affecting students. Similarly, aggressive behavior was found to be at a moderate level, suggesting that aggression is present but not extreme within the sample.

These findings are consistent with literature indicating that adolescents in high-pressure environments tend to exhibit elevated stress alongside moderate behavioral disturbances (Farrell et al., 2022).

## 2. Correlation Analysis

To examine the relationship between psychological stress and aggressive behavior, Pearson correlation coefficient was calculated.

**Table 6: Correlation between Psychological Stress and Aggressive Behavior**

Variable 1	Variable 2	r	Sig. (p)
Psychological Stress	Aggressive Behavior	0.49	0.000

### Interpretation

The results reveal a moderate positive correlation between psychological stress and aggressive behavior ( $r = 0.49$ ,  $p < 0.01$ ). This indicates that higher levels of stress are associated with higher levels of aggression among adolescents.

This finding supports Hypothesis 1 and aligns with previous research suggesting that stress contributes to externalizing behaviors such as aggression (Liu & Lewis, 2021; Kim & Kim, 2022).

## 3. Regression Analysis

A simple linear regression analysis was conducted to examine the predictive role of psychological stress in aggressive behavior.

**Table 7: Regression Analysis Predicting Aggressive Behavior from Psychological Stress**

Model	R	R <sup>2</sup>	Beta ( $\beta$ )	Sig. (p)
Psychological Stress	0.49	0.24	0.49	0.000

### Interpretation

The regression results indicate that psychological stress significantly predicts aggressive behavior ( $\beta = 0.49$ ,  $p < 0.001$ ). The model explains approximately 24% of the variance in aggressive behavior ( $R^2 = 0.24$ ), suggesting that stress is a substantial contributing factor.

This finding supports Hypothesis 2 and confirms that psychological stress plays a meaningful role in shaping aggressive tendencies among adolescents.

#### 4. Gender Differences

An independent samples t-test was conducted to examine gender differences in psychological stress and aggressive behavior.

**Table 8 :Gender Differences in Psychological Stress and Aggressive Behavior**

Variable	Gender	Mean	SD	t-value	Sig. (p)
Psychological Stress	Male	3.68	0.70	1.21	0.228
	Female	3.54	0.67		
Aggressive Behavior	Male	3.35	0.62	2.45	0.016
	Female	2.99	0.63		

#### Interpretation

The results indicate no statistically significant differences in psychological stress based on gender ( $p > 0.05$ ), suggesting that both male and female students experience similar levels of stress.

However, significant differences were found in aggressive behavior ( $p < 0.05$ ), with males exhibiting higher levels of aggression compared to females. This finding is consistent with prior research indicating gender differences in the expression of aggressive behavior, with males more likely to exhibit externalizing forms of aggression (Lansford, 2018).

#### Summary of Findings

- Psychological stress levels were moderate to high
- Aggressive behavior was moderate
- A significant positive relationship exists between stress and aggression
- Psychological stress predicts aggressive behavior
- Gender differences were found in aggression but not in stress.

#### Discussion

The present study aimed to examine aggressive behavior among secondary school students in Lebanon within the context of psychological stress. The findings provide important insights

into the behavioral consequences of stress during adolescence, particularly within a crisis-affected environment.

The results revealed that adolescents experience moderate to high levels of psychological stress, which can be understood in light of the cumulative socio-economic and educational challenges characterizing the Lebanese context. These findings are consistent with prior research indicating that adolescents exposed to prolonged instability and uncertainty tend to report elevated stress levels (UNICEF, 2023). The persistence of such stressors likely contributes to a sustained state of psychological strain, which affects both emotional and behavioral functioning.

In parallel, the findings indicated that aggressive behavior among adolescents was at a moderate level. While not extreme, this level of aggression is noteworthy, as it reflects the presence of behavioral responses to underlying distress. This supports the conceptualization of aggression not merely as misconduct but as a maladaptive coping mechanism, through which adolescents attempt to manage or express internal tension (Compas et al., 2017).

A key finding of the study is the existence of a significant positive relationship between psychological stress and aggressive behavior, confirming that higher levels of stress are associated with increased aggression. This result aligns with the Frustration–Aggression Theory, which posits that persistent frustration—such as that generated by chronic stress—leads to aggressive tendencies. Moreover, this finding is consistent with contemporary empirical studies demonstrating that stress contributes to externalizing behaviors among adolescents (Farrell et al., 2022; Kim & Kim, 2022).

The regression analysis further revealed that psychological stress significantly predicts aggressive behavior, explaining a meaningful proportion of variance. This finding reinforces the view that stress is not only associated with aggression but also plays a determinant role in shaping it. From a theoretical perspective, this result supports the General Aggression Model, which suggests that environmental stressors influence internal states (e.g., anger, arousal), thereby increasing the likelihood of aggressive responses (Anderson & Bushman, 2002).

The observed gender differences, with males exhibiting higher levels of aggression, are also consistent with previous research indicating that males are more likely to display externalizing behaviors, including physical and verbal aggression (Lansford, 2018). However, the absence of significant gender differences in psychological stress suggests that both males and females are similarly exposed to stressors, but differ in how they express or regulate these experiences.

Importantly, the findings must be interpreted within the broader Lebanese context, where adolescents are exposed to chronic and overlapping stressors, including economic hardship, educational disruption, and social instability. These conditions not only increase psychological stress but may also limit access to adaptive coping mechanisms, thereby increasing reliance on maladaptive responses such as aggression. In this sense, aggression can be understood as a contextually shaped behavior, reflecting both individual vulnerabilities and environmental pressures.

Overall, the study contributes to a more nuanced understanding of adolescent behavior by highlighting the central role of psychological stress in shaping aggression. It underscores the importance of addressing underlying stressors rather than focusing solely on behavioral symptoms.

## **Recommendations**

Based on the findings of the study, several practical recommendations can be proposed:

### **1. School-Based Interventions**

- Schools should implement structured psychosocial support programs aimed at reducing psychological stress among students.
- Programs focusing on emotion regulation, stress management, and coping skills are essential.

### **2. Strengthening School Counseling Services**

- School counselors should be trained to identify early signs of stress and aggression.
- Regular psychological screening may help in early intervention.

### **3. Family Awareness and Involvement**

- Parents should be educated about the impact of stress on adolescent behavior.
- Promoting supportive family environments can reduce both stress and aggression.

### **4. Policy-Level Interventions**

- Educational policymakers should integrate mental health support within school systems.
- Addressing structural stressors (e.g., academic overload) is equally important.

### **5. Community-Based Support**

- NGOs and community organizations should provide safe spaces and psychosocial services for adolescents, particularly in high-risk areas.

## **Limitations of the Study**

- The study relied on a **self-report design**, which may be subject to response bias.
- The sample size (n = 100) limits the generalizability of findings.
- The cross-sectional design restricts causal interpretation.

## **Future Research Directions**

### **1. Expanding Sample Size and Diversity**

Future studies should include larger and more diverse samples across different regions in Lebanon to enhance generalizability.

## **2. Longitudinal Designs**

There is a need for longitudinal research to examine how psychological stress influences aggressive behavior over time.

## **3. Mediating and Moderating Variables**

Future research should explore variables such as:

- Emotional regulation
- Social support
- Resilience

to better understand the mechanisms underlying the stress–aggression relationship.

## **4. Mixed-Methods Approaches**

Combining quantitative and qualitative methods may provide deeper insights into adolescents lived experiences of stress and aggression.

## **5. Intervention-Based Studies**

Experimental studies are needed to evaluate the effectiveness of stress-reduction programs in decreasing aggressive behavior.

## **Conclusion**

This study demonstrates that psychological stress is a significant factor associated with and predictive of aggressive behavior among secondary school students in Lebanon. The findings highlight the importance of adopting a comprehensive approach that addresses both psychological and environmental factors influencing adolescent behavior. By focusing on stress reduction and emotional regulation, it is possible to mitigate aggressive tendencies and promote healthier developmental outcomes among adolescents.

## **References**

Allen, J. J., Anderson, C. A., & Bushman, B. J. (2018). The general aggression model. *Current Opinion in Psychology, 19*, 75–80.

Anderson, C. A., & Bushman, B. J. (2002). Human aggression. *Annual Review of Psychology, 53*, 27–51.

Borrego-Ruiz, A., & Borrego, J. J. (2025). Adolescent aggression: A narrative review on the potential impact of violent video games. *Psychology International, 7*(1), 12.

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Harvard University Press.

Calvete, E., Orue, I., & Gamez-Guadix, M. (2021). Do extrafamilial stressors predict aggressive behavior in adolescents? The role of emotional distress. *Journal of Adolescence*, 88, 1–11.

Compas, B. E., Jaser, S. S., Bettis, A. H., Watson, K. H., Gruhn, M. A., Dunbar, J. P., Williams, E., & Thigpen, J. C. (2017). Coping, emotion regulation, and psychopathology in childhood and adolescence: A meta-analysis and narrative review. *Psychological Bulletin*, 143(9), 939–991.

Evans, G. W., Li, D., & Whipple, S. S. (2013). Cumulative risk and child development. *Psychological Bulletin*, 139(6), 1342–1396.

Farrell, A. D., Sullivan, T. N., & Esposito, L. E. (2022). Associations between stress exposure and aggression among adolescents: A systematic review. *Journal of Adolescence*, 94, 84–98.

Kim, J. A., Park, S. Y., & Lee, H. J. (2025). The influence of negative emotions on adolescents' behavior: The role of stress, self-control, and aggression. *Frontiers in Psychology*.

Kim, K., & Kim, S. (2022). The relationship between stress, emotional dysregulation, and aggression in adolescents. *Children and Youth Services Review*, 136, 106422.

Lansford, J. E. (2018). Development of aggression. *Current Opinion in Psychology*, 19, 17–21.

Li, X., Wang, M., & Zhang, L. (2025). Bidirectional relationships between adolescent aggression and mental health conditions: Longitudinal evidence. *Journal of Youth and Adolescence*.

Liu, J., & Lewis, G. (2021). Environmental stress and aggressive behavior in youth: A developmental perspective. *Aggression and Violent Behavior*, 58, 101–115.

Romeo, R. D. (2017). The teenage brain: The stress response and the adolescent brain. *Current Directions in Psychological Science*, 26(2), 140–145.

UNICEF Lebanon. (2022). *Adolescent well-being in Lebanon: Evidence brief*. UNICEF.

UNICEF. (2023). *The state of the world's children 2023: For every child, mental health*. UNICEF.

Uvelli, A., Rossi, F., & Bianchi, D. (2026). COVID-19 stress, aggressiveness, and deviant behavior in adolescents. *Journal of Behavioral Health*.

World Bank. (2023). *Lebanon economic monitor: The normalization of crisis is no road for stabilization*. World Bank.

World Health Organization. (2022). *Adolescent mental health*. WHO.

Yin, X., Zhang, Y., & Liu, Q. (2025). The mediating role of impulse control and the moderating role of gender in the relationship between perceived stress and aggressive behavior among adolescents. *Children and Youth Services Review*.