

1 Perceived Safety, Risk, and Violence Exposure among 2 Schoolchildren: A Psychosocial Analysis of Factors 3 Shaping School Safety 4

5 *School safety is a prerequisite for quality education and child well-being. In*
6 *Kosovo's post-conflict educational context, violence and bullying remain*
7 *significant threats, yet little is known about how students' perceptions of safety,*
8 *risk, and exposure to violence jointly shape their overall sense of security. This*
9 *study examines interrelations among perceived safety, perceived risk, and*
10 *violence exposure; tests their predictive power for students' overall safety; and*
11 *explores group differences by gender, grade level, and settlement area. A cross-*
12 *sectional quantitative survey was conducted with 299 students from Grades 6–*
13 *12 across 20 public schools in Kosovo. Higher perceived safety was associated*
14 *with lower perceived risk and violence exposure. Regression results indicated*
15 *that situational safety and interpersonal violence exposure significantly*
16 *predicted overall safety perceptions. ANOVA revealed that female and older*
17 *students reported higher perceived risk and exposure to violence, while younger*
18 *and male students felt safer. No significant differences emerged by settlement*
19 *area.*

20 *Findings confirm school safety as a multidimensional psychosocial construct*
21 *shaped by both perception and experience. Policy actions should prioritize*
22 *psychosocial support, teacher training, and gender-sensitive prevention*
23 *programs to strengthen emotional security and inclusive learning environments.*
24

25 **Keywords:** *School safety; perceived safety; perceived risk; violence*
26 *exposure; group differences;*
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28

29 Introduction 30

31 School safety is an important requirement for quality education and holistic
32 development of children. School safety in pre-university education is not just
33 about protection from physical injury, but also about preventing bullying,
34 harassment, discrimination and mental health challenges. A safe school is one
35 where students learn, grow and develop without fear. This contributes to academic
36 achievement and emotional health. Safety is built and maintained, in part, by the
37 collaborative work of educators, administrators, parents and the wider community
38 through coordinated policies, consistent practices and preventive interventions.

39 School safety is multi-dimensional, including physical, social, emotional and
40 psychological dimensions that contribute to students' ability to focus, develop
41 healthy relationships and reach their potential. Safe schools require resilient
42 infrastructure, effective supervision and the promotion of respectful and non-
43 violent communication between students and teachers.

44 Violence against children is a major global and local concern that threatens
45 educational access and child development. In Kosovo, approximately 59% of
46 schoolchildren report psychological violence, primarily as verbal abuse or
47 destruction of personal property (KOMF & UNICEF, 2017). Psychological

1 violence is generally defined as acts that damage the emotional stability, dignity or
 2 self-worth of a person and it often has consequences as severe as physical
 3 violence. Likewise, social violence, manifested through exclusion or
 4 discrimination, undermines a child's sense of belonging and trust in school
 5 institutions.

6 Schools need to take systematic approaches to ensure safety, including
 7 developing emergency protocols, establishing school-safety teams and providing
 8 regular training in health and safety procedures. Preventive education teaches
 9 students to resolve disputes peacefully and respect the boundaries of others
 10 through conflict resolution, mediation and restorative practices. The educators and
 11 the staff are responsible for early identification and early intervention. Parents and
 12 communities are responsible for ongoing accountability and support.

13 Thus, school safety must be understood as a collaborative and systemic
 14 process in which all stakeholders have a role in developing a culture of security,
 15 empathy, and trust that goes beyond the classroom and spills over into the larger
 16 community.

19 **Literature Review**

21 *Conceptualizing School Safety*

22
 23 School safety has moved from a narrow focus on physical security to a
 24 holistic construct involving psychological, social and emotional aspects (Ben-
 25 Arieh et al., 2001). Safety is viewed as a basic condition for learning and a major
 26 indicator of school quality in modern education systems. It includes objective
 27 factors like infrastructure and supervision and subjective perceptions of student
 28 safety in different environments.

29 A safe school is not just one in which violence does not occur, but one that
 30 has an atmosphere of trust, inclusion and respect. This is particularly important in
 31 secondary schools, as adolescents are under increased social pressures, peer
 32 dynamics and are emotionally vulnerable.

33 Child maltreatment and school violence are now recognized as major public
 34 health concerns with long-term psychological and economic consequences
 35 worldwide (Hillis et al., 2016). Research shows that students in hostile
 36 environments are more likely to develop anxiety, depression and lose interest in
 37 learning (Pellegrini, 2002).

39 *Dimensions and Typologies of Violence in Schools*

40
 41 Violence at school is a multidimensional phenomenon that includes physical,
 42 psychological and social forms:

- 43
- 44 • Physical violence involves the use of force that causes pain or injury.
- 45 • Psychological violence means verbal aggression, intimidation, humiliation
- 46 and manipulation that damage emotional health.

- 1 • Social violence is behavior or circumstances that damage a person’s social
2 connections, sense of inclusion, or status, often through marginalization or
3 bias.

4
5 International and local studies (Agani-Destani et al., 2015) have confirmed
6 that these forms tend to co-occur and make a more complex connection of risks
7 that affect both victims and witnesses. Bullying and cyberbullying are particularly
8 detrimental to a person’s psychological safety, as Escuadra et al. (2023) connect
9 them with anxiety, depression and social isolation. Thus, schools need to address
10 violence not as isolated incidents but as outcomes of wider social, cultural and
11 institutional dynamics, including power relations, gender norms and the influence
12 of digital technologies.

13 14 *The Context of School Violence in Kosovo*

15
16 In Kosovo, research on school violence and bullying has expanded notably in
17 the last decade, reflecting greater institutional attention to child protection. Studies
18 by Gallopeni (2020), Kelmendi et al. (2023) and Kelmendi, Arënliu, & Konjufca
19 (2024) reveal that bullying is pervasive across secondary schools, manifesting as
20 verbal aggression, social exclusion, and persistent psychological harassment.
21 Victims often refrain from reporting incidents due to fear threats, stigma or distrust
22 in school institutions. These findings are compounded by the challenges of limited
23 resources, weak enforcement of preventive mechanisms, and a social context
24 marked by post-conflict transition and economic uncertainty.

25 Millaku et al. (2025) emphasize gender disparities, showing that girls report
26 higher levels of fear and insecurity, whereas boys exhibit more overtly aggressive
27 behaviors. Similarly, Krasniqi, Vazsonyi, & Cakirpaloglu (2024) link bullying to
28 mental health issues such as anxiety and depression, especially during adolescence.

29 The Law on Pre-University Education in Kosovo specifically mandates
30 educators to prevent physical and psychological harm (Article 4) and assigns
31 municipalities responsibility for coordinating responses to violence (Article 7).
32 Despite this, implementation remains inconsistent, highlighting the gap between
33 policy and practice. Thus, local literature presents school violence in Kosovo as a
34 multifactorial dimension embedded in the country’s social transition and requiring
35 community-wide interventions, teacher training, and stronger institutional
36 accountability.

37 38 *International Evidence and Comparative Insights*

39
40 There are useful comparative insights from global research. La Salle-Finley et
41 al., (2024) showed that social-emotional learning programs are effective in
42 significantly reducing bullying and improving school climate. Hinduja and Patchin
43 (2012) initiated the study of cyberbullying, where digital spaces are considered as
44 new sites of psychological violence. Brett et al. (2024) found that strong caregiver
45 and teacher relationships buffered the effects of victimization, underscoring the
46 importance of social support. Gaffney et al. (2021) also found that multi-level

1 programs that involve teachers, parents and communities produce the most
 2 sustainable results through meta-analyses of anti-bullying interventions. Finally,
 3 education is considered a peace-building mechanism by Hymel and Darwich
 4 (2018) who argue that schools are not only places for learning but also for
 5 developing empathy, cooperation, and social cohesion making them a particularly
 6 relevant framework in post-conflict societies like Kosovo, as well as Western
 7 Balkans in general.

9 *Theoretical Framework: Perceived Safety, Perceived Risk, and Violence Exposure*

11 Empirical research has addressed school safety through multi-faceted concepts,
 12 such as perceived safety, perceived risk, and violence exposure indices.

14 Perceived Safety Index (PSI)

15 Perceived safety is defined as students' subjective sense of feeling safe at
 16 school (Ben-Arieh et al., 2001). It also includes the feeling of safety in classrooms,
 17 hallways, playgrounds, and while traveling to and from school.

18 Higher PSI scores have been found to be associated with more positive school
 19 climates, less self-reported victimization, and better psychosocial well-being
 20 (Lunetti et al., 2022). Cross-national studies (Ahn & Yoo, 2025) also show that
 21 students from high safety environments report higher overall well-being, affirming
 22 the strong link between perceived safety and developmental outcomes.

24 Perceived Risk Index (PRI)

25 Students' perceived risk refers to students' subjective assessment of the
 26 likelihood of experiencing harm, victimization, violence, or unsafe situations
 27 within the school environment, shaped by individual, social, and contextual school
 28 factors (Shumow & Lomax, 2001). PRI items typically capture students'
 29 evaluation of hazards such as harassment, theft, or assault in specific settings.
 30 Surveys such as Indicators of School Crime and Safety (NCES, 2024) employ
 31 similar constructs to highlight demographic and contextual differences in
 32 perceived risk. Evidence consistently shows that students with greater risk and
 33 insecurity in school report lower emotional security, school belonging, and
 34 psychosocial adjustment (Allen et al., 2018; Kalkan & Dağlı, 2021; Nijs et al.,
 35 2014; Chen et al., 2025).

37 Violence Exposure Index (VEI)

38 The Violence Exposure Index reflects students' direct or indirect experience
 39 with violent events. Measures such as the Juvenile Victimization Questionnaire
 40 (JVQ-R2) (Mathews et al., 2023) and the Violence Exposure and Trauma Screener
 41 for Youth (VETSY) (Flannery et al., 2024) have shown strong validity in
 42 assessing these experiences. VEI has been observed to affect perceived risk and
 43 perceived safety, establishing a structural pathway: VEI → PRI → PSI →
 44 outcomes like well-being and engagement. These constructs are best regarded as
 45 complementary parts of an integrated model for the assessment of school safety.

1 *Synthesis and Research Gap*

2 The literature reviewed suggests that school safety is a multidimensional
3 construct that includes physical conditions, social relations, psychological
4 perceptions, and institutional mechanisms. Evidence, both global and local,
5 suggests that violence and bullying are ongoing threats to children's safety and
6 learning gains.

7 However, there are still gaps, especially empirical studies on the relationship
8 between perceived safety, perceived risk and exposure to violence in the context of
9 emerging economic development. Previous studies have focused on individual
10 aspects of bullying and violence, but few have examined the interrelationships
11 between these phenomena using standardized indices such as PSI, PRI, and VEI.

12 Addressing this gap is crucial to develop evidence-based interventions and to
13 inform national policies that aim at making schools places of well-being, inclusion
14 and peacebuilding.

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16

17 **Study Objectives**

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19 This study aims to address the safety phenomenon in the pre-university
20 school settings in a developing country. The safety concept is addressed through
21 examination in the domains of perceived safety, perceived risk, and violence
22 exposure indices. Furthermore, the study explores attitudes and behaviours of
23 children reacting in the exposed safety and violence situations in the school
24 settings, as well as on the route from home to school.

25 The study seeks to provide an empirical and conceptual understanding of how
26 these constructs jointly shape students' overall sense of safety in the school
27 environment, both within school premises and along their routes to and from
28 school. By doing so, the research aims to identify contextual, psychological, and
29 social determinants of school safety and to generate evidence-based insights that
30 can inform school policies, preventive programs, and interventions aimed at
31 promoting a safer, more inclusive, and supportive learning climate for all students.

32 In achieving these aims, the study focuses on the following research questions"

33

- 34 1. How do students' perceptions of safety, risk, and exposure to violence
35 interrelate in shaping their overall sense of school safety?
36 2. To what extent do perceived safety, perceived risk, and violence exposure
37 predict students' overall feelings of safety in school environments?
38 3. Are there statistically significant differences in perceived safety, perceived
39 risk, and exposure to violence between: a) male and female students, b)
40 lower and upper secondary students, and c) urban, suburban, and rural
41 school environments?
42 4. Does the level of perceived safety, risk, and exposure to violence influence
43 academic achievement among students?
44 5. Does violence exposure indirectly affect overall safety perception through
45 perceived risk — i.e., does Perceived Risk (PRI) mediate the relationship
46 between Violence Exposure (VEI) and Perceived Safety (PSI)?

1 **Methodology**

2

3 *Study Design*

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5 This study utilized a cross-sectional, quantitative survey design to investigate
6 students' perceptions of safety, perceived risks, and exposure to violence in
7 schools. The design was selected to capture the self-reported experiences,
8 perceptions, and behaviors of students at a single time point, enabling both
9 descriptive summaries and inferential analyses of relationships between constructs.

10 The study uses both an exploratory and explanatory quantitative approach.
11 This study is explorative in providing an overall picture of school safety, as well
12 as exploring key factors related to school safety. The explanatory nature relates to
13 the examination of relationship between key school safety variables, as well as
14 group differences pertaining gender, educational level and settlement settings.
15 Finally, the study investigates the influence of the school safety variables in the
16 academic performance of the affected children.

17

18 *Participants and Sampling*

19

20 The target population consisted of students enrolled in grades 6-12 in public
21 schools. Participants' age range was between 11–18 years ($M = 14.5$ years, $SD \approx 1.8$).
22 The focus on this age group allowed for capturing the perspectives of adolescents who
23 are old enough to self-report reliably on experiences of safety and risk.

24 A stratified random sampling method was applied to ensure representation
25 across gender, age, level of grades, settlement area, and level of education. Within
26 each stratum, schools were randomly selected, and within selected schools,
27 classrooms were chosen to participate. Students were selected in 20 schools, of
28 which 15 were schools covering primary and lower secondary education, and 5
29 schools covering upper secondary educations. From them, 8 schools were selected
30 in rural areas.

31 The study sample included 299 students. Females represented 60.9% of the
32 sample. Of the 293 students who reported their grade, 41.3% were in lower
33 secondary (Grades 6–9) and 58.7% in upper secondary (Grades 10–12), with
34 Grade 12 being the largest group (26.6%). 55.% of students resided in urban areas
35 at or near the center, 26.4% resided in suburban urban areas, and 18.2% resided in
36 rural areas. Over 87% of them reported their academic performance as “very
37 good” or “excellent.” Approximately one in five students traveled more than 4 km
38 to school.

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40

1 **Table 1.** *Distribution of participants by gender, grade, and place of residence*

Sample category	Sub-category	n	%
Gender	Female	182	60.9
	Male	117	39.1
	Total	299	100
Education Level			
Lower Secondary (Grades 6–9)	Grade 6	29	9.9
	Grade 7	27	9.2
	Grade 8	32	10.9
	Grade 9	33	11.3
	Subtotal 6–9	121	41.3
Upper Secondary (Grades 10–12)	Grade 10	40	13.7
	Grade 11	54	18.4
	Grade 12	78	26.6
	Subtotal 10–12	172	58.7
Total 6–12	293	100	
Place of residence			
Place of residence	City – central/near center	162	55.5
	City – periphery	77	26.4
	Rural	53	18.2
	Total	292	100

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3

Data Collection Instruments and Measures

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Data were collected using a structured questionnaire specifically developed for this study. The instrument consisted of demographic questions, followed by clusters of items corresponding to the three main constructs: Perceived Safety, Perceived Risk, and Violence Exposure. Items were rated on 4- or 5-point Likert-type scales. Other data variables included demographics (gender, grade, place of residence, academic performance, and distance from home to school).

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12 **Table 2.** *Summary of Key Variables and Composite Indices*

Index / Variable	Subscale	Item Focus & Examples	Reliability (α)
Perceived Safety Index (PSI)	Situational (PSI1)	Safety in different situations: going to school, returning home, during class, during breaks, school events (5 items)	.73
	Spatial (PSI2)	Safety in physical areas: classrooms, corridors, toilets, labs, cafeteria, sport yard, parking lot (8 items)	.91
	Overall safety single item	Global rating of school safety* (1 item)	.73
Perceived Risk Index (PRI)	Hazards (PRI1)	Risks from stray animals, traffic, harassment, robbery, poor lighting, unsafe food, construction zones, weather (9 items)	.83

Index / Variable	Subscale	Item Focus & Examples	Reliability (α)
	Substance environments (PRI2)	Risky places associated with drug/alcohol use (toilets, corridors, parks, cafés, etc.) (7 items)	.86
	Ease of access (PRI3)	Perceptions of ease of obtaining tobacco, alcohol, drugs, weapons (5 items)	.89
Violence Exposure Index (VEI)	Incidents (ViExin1)	Exposure to punishments, fights, theft, vandalism, insults, harassment, drug use, weapon carrying (34 items)	.87–.90
	Spatial mapping (ViExin2)	Likelihood of violence in different places (corridors, toilets, cafeteria, sport, yard, etc.) (31 items)	.92–.93
	Substance/weapon environment (ViExin3)	Peer prevalence and environmental indicators of substance use/weapon carrying (18 items)	.86

*Coded on 5 categories from “Very safe” to “Very uncertain”; lower means indicate *greater* safety.

The internal consistency of all item clusters used to construct the study’s indices was examined using Cronbach’s alpha (α). As shown in Table 2, the alpha coefficients ranged from .73 to .93, demonstrating acceptable to excellent reliability across all subscales. The situational subscale ($\alpha = .73$) indicates satisfactory reliability, while the spatial subscale ($\alpha = .91$) demonstrates excellent internal consistency. Together, these results suggest that the items measuring students’ perceived safety are coherent and suitable for composite scoring. The three PRI subscales: multifactor hazards ($\alpha = .83$), access/ease ($\alpha = .89$), and drugs/alcohol places ($\alpha = .86$), show consistently high reliability, confirming that students’ responses to risk-related items are internally stable across different risk domains. Reliability was also strong across VEI dimensions, ranging from $\alpha = .77$ to .93. The highest values were found for places: physical violence ($\alpha = .92$) and places: sexual harassment ($\alpha = .93$), suggesting excellent homogeneity among items assessing exposure to violent environments. Overall, all indices exceeded the commonly accepted threshold of $\alpha \geq .70$ for psychological research (Nunnally & Bernstein, 1994), confirming the internal consistency and measurement reliability of the scales.

Procedure & Ethical Considerations

Data collection was conducted in two forms: for the age group 11-15 years old (grades 6-9), data were collected using paper-and-pencil approach. A team of school psychologists were trained on the data collection methodology for this type of survey, which conducted field data collection in the selected schools, through a one-to-one interview with children. For children aged 16-18 years old, an online survey was distributed using communication channels from the school to outreach them.

1 Ethical measures were ensured in several steps. First permissions were
2 granted from the Ministry of Education and relevant school administrations.
3 Second, written informed consent was obtained from parents/guardians, and assent
4 was secured from students coming from 11-15 age groups. For students belonging
5 to 16-18 age group with whom online questionnaire administration was
6 conducted, the parental consent and student assent was ensured by placing the
7 information at the beginning of the online questionnaire, requiring them to agree
8 with their parents before they started to fill in the questionnaire, as well as to
9 provide assent by reading, understanding and clicking on relevant boxes. All
10 participants were informed on the anonymity of their identity and confidentiality
11 of data disclosure, before the data collection took place.

12 *Data Analysis*

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14
15 Data analyses were conducted using SPSS 26 and followed APA guidelines.
16 Initially data screening was performed mapping for missing data, normality, and
17 outliers' identification. Second, descriptive statistics examined means, standard
18 deviations, and frequency distributions among sample categories. Third, reliability
19 analysis was performed examining Cronbach's α for each composite scale.
20 Furthermore, correlational analysis using Pearson correlations were conducted to
21 check correlations between main indices (PSI, PRI, VEI, and overall safety), as
22 well as between main indices and their composite items to check for validity
23 measures. Multiple regression analysis was performed for examining the
24 predicting level of overall perceived safety, with PSI, PRI, and VEI composites as
25 predictors. Exploratory regression tested academic achievement. Finally, between
26 group differences were examined performing ANOVAs, to compare groups by
27 gender, grade, and school location, in the main observed variables.

28 29 30 **Data Analysis and Results**

31 32 *Overview of Data Analysis*

33
34 Data analyses were structured according to the five research questions
35 formulated in Chapter 3, covering (1) the interrelationships between key
36 constructs, (2) predictive effects on overall safety, (3) group differences, (4)
37 influence on academic performance, and (5) possible indirect effects between
38 violence exposure and safety perception.

39
40 *Research Question 1: How do students' perceptions of safety, risk, and exposure*
41 *to violence interrelate in shaping their overall sense of school safety?*

42
43 Descriptive analyses were conducted to summarize the central tendencies and
44 dispersion of the three main constructs, Perceived Safety Index (PSI), Perceived
45 Risk Index (PRI), and Violence Exposure Index (VEI), and their subscales.

1 Students reported relatively high perceived safety (situational PSI₁: $M = 3.84$,
 2 $SD = 0.80$; spatial PSI₂: $M = 3.82$, $SD = 0.62$), moderate perceived risk (PRI₁: $M =$
 3 2.44 , $SD = 0.81$; PRI₂: $M = 1.76$, $SD = 0.70$), and low violence exposure (ViExin₁₋₃
 4 $\approx M = 1.85-2.16$). These values indicate that most students perceive their schools
 5 as safe environments but acknowledge limited exposure to risky or violent events.
 6

7 **Table 3.** *Descriptive statistics for key indices (Grades 6–12)*

Construct (composite)	n	M	SD
Perceived Safety – situational	299	3.84	0.80
Perceived Safety – spatial	236	3.82	0.62
Perceived Risk – multifactor hazards	298	2.44	0.81
Perceived Risk – drugs/alcohol places	299	1.76	0.70
Perceived Risk – access/ease	296	2.04	1.07
Violence Exposure – physical/verbal incidents	299	1.86	0.51
Violence Exposure – spatial mapping	299	2.16	0.77
Violence Exposure – substance/weapon environment	299	1.85	0.63
Overall safety single item†	297	2.09	0.80

8
 9 Pearson correlations were computed to examine relationships between the
 10 main indices and the overall safety item. Results revealed a significant negative
 11 correlation between situational perceived safety and overall safety uncertainty ($r =$
 12 $-.37$, $p < .01$), indicating that students who felt safer in daily school situations also
 13 rated their overall school safety more positively. Conversely, perceived risk ($r =$
 14 $.38$, $p < .01$) and violence exposure ($r = .37$, $p < .01$) were positively correlated
 15 with reduced safety perceptions, implying that students perceiving more hazards
 16 or witnessing more violence felt less secure.

17 Additional analyses showed moderate intercorrelations between indices,
 18 where perceived risk correlated negatively with perceived safety ($r = -.32$, $p <$
 19 $.001$), and positively with violence exposure ($r = .32$, $p < .001$). These findings
 20 confirm the theoretical linkage proposed in the conceptual model (VEI → PRI →
 21 PSI), suggesting that increased exposure heightens perceived risk, which in turn
 22 undermines safety perceptions.

23 Overall, these results demonstrate a coherent internal structure among the
 24 main constructs. Students' sense of safety is not determined solely by physical
 25 infrastructure but by subjective experiences of risk and exposure. The direction
 26 and strength of correlations support a multifactorial framework of school safety
 27 consistent with prior studies (Ahn & Yoo, 2025; Mathews et al., 2023; Van der
 28 Helm et al., 2024).
 29

1 **Table 4.** *Correlations of overall safety with major indices*

Predictor	r
PSI – situational (PSI1)	-.37**
PSI – spatial (PSI2)	.12 ($p = .058$)
PRI – multifactor hazards (PRI1)	.38**
PRI – drugs/alcohol places (PRI2)	.25**
PRI – access/ease (PRI3)	-.02
VEI – physical/verbal incidents (ViExin1)	.37**
VEI – spatial mapping (ViExin2)	.27**
VEI – substance/weapon environment (ViExin3)	.16**

2 * $p < .01$.3 ** $p < .001$.

4

5 *Research Question 2: To what extent do perceived safety, perceived risk, and*
6 *violence exposure predict students' overall feelings of safety?*

7

8 A multiple regression analysis was conducted to determine how perceived
9 safety, risk, and violence exposure predict students' overall safety perception. The
10 model was statistically significant, $F(8, 222) = 14.46$, $p < .001$, accounting for
11 34.3% of the variance ($R^2 = .343$).12 The most significant predictors were situational perceived safety ($\beta = -.33$, p
13 $< .001$) and exposure to physical/verbal incidents ($\beta = .23$, $p = .015$). The negative
14 beta for PSI₁ indicates that higher situational safety corresponded with greater
15 overall safety, while higher exposure to interpersonal violence predicted reduced
16 safety perception. Other predictors, such as spatial safety and perceived hazards,
17 showed weaker or non-significant effects.

18

19 **Table 5.** *Multiple regression predicting overall safety*

Parameter	b	SE	β	t	p
Intercept	1.921	0.392	—	4.90	< .001
PSI – situational (PSI1)	-0.321	0.058	-.325	-5.50	< .001
PSI – spatial (PSI2)	0.113	0.068	.092	1.66	.099
PRI – multifactor hazards (PRI1)	0.113	0.063	.122	1.80	.074
PRI – drugs/alcohol places (PRI2)	0.254	0.171	.225	1.49	.137
PRI – access/ease (PRI3)	0.051	0.117	.070	0.44	.664
VEI – physical/verbal incidents (ViExin1)	0.352	0.144	.234	2.45	.015
VEI – spatial mapping (ViExin2)	0.167	0.091	.170	1.83	.069
VEI – substance/weapon env. (ViExin3)	-0.484	0.324	-.397	-1.50	.136

20 Model: $R = .585$, $R^2 = .343$, adj. $R^2 = .319$, $F(8, 222) = 14.46$, $p < .001$.21 *Note.* Lower scores on the overall safety item indicates greater safety; negative coefficients imply
22 predictors associated with greater safety ratings on the single item.

23

This regression model highlights two central factors influencing students' overall sense of safety: how secure they feel in daily school situations and their actual exposure to violent incidents. These findings reinforce the conceptual notion that subjective perceptions and lived experiences jointly define safety in educational contexts. The strong explanatory power of the model ($R^2 = .343$) suggests that these psychological and experiential factors are key determinants of perceived school safety, aligning with international evidence on school climate and well-being (La Salle-Finley et al., 2024; Lunetti et al., 2022).

Research Question 3: Are there significant differences in perceived safety, risk, and exposure to violence by gender, grade level, and settlement area?

A series of one-way ANOVAs were conducted to examine gender-based differences across perceived safety, risk, and exposure indices. Levene's tests confirmed homogeneity of variances for most variables ($p > .05$), except for the Perceived Risk, Substance Abuse ($p = .009$), Violence Exposure–Physical/Verbal ($p = .022$), and Violence Exposure–Spatial Exposure ($p = .006$) scales, for which equal variances were not assumed.

Table 6. Summary of Significant ANOVA Effects Across Factors

Variable	Significant Factor(s)	Direction of Effect	Interpretation Summary	Effect Size Range (η^2/p)
PSI – Situational Safety	Grade Level	Declines with age	Younger students feel safer	.13
PRI – Multifactor Hazards	Gender	Females higher	Girls perceive more hazards	.06
PRI – Contextual Risk	Grade Level	Increases with age	Older students perceive more risks	.12
VEI – Physical/Verbal	Gender, Grade	Females/Older higher	Girls and older students more exposed	.02–.05
VEI – Substance/Weapon	Grade	Upper grades higher	Older students exposed to more risky environments	.10

Males reported marginally higher situational safety ($M = 3.95$, $SD = 0.79$) than females ($M = 3.77$, $SD = 0.80$), with the difference approaching significance, $F(1, 297) = 3.48$, $p = .063$. A similar pattern was observed for spatial safety, $F(1, 234) = 3.89$, $p = .050$, suggesting that male students perceived their school environment as slightly safer. Significant gender effects emerged for Perceived Risk–Multifactor Hazards, $F(1, 296) = 20.07$, $p < .001$, and Perceived Risk–Substance Abuse, $F(1, 297) = 4.87$, $p = .028$. Females reported greater awareness of multifactor hazards ($M = 2.60$, $SD = 0.79$) and substance-related risks ($M = 1.83$, $SD = 0.73$) than males ($M = 2.18$, $SD = 0.78$; $M = 1.65$, $SD = 0.62$, respectively). No gender differences were found in contextual risk influence, $F(1,$

1 294) = 0.14, $p = .711$. With respect to violence exposure, females scored higher in
2 Physical/Verbal Violence Exposure, $F(1, 297) = 7.07$, $p = .008$, and Spatial
3 Exposure, $F(1, 297) = 5.37$, $p = .021$, indicating slightly higher perceived exposure
4 among girls. The gender difference in Substance/Weapon Environment was not
5 significant, $F(1, 297) = 1.73$, $p = .19$. Overall, females tended to report higher
6 perceived risks and greater exposure to violence, whereas males rated their school
7 settings as somewhat safer. These gender-linked differences align with findings
8 from prior adolescent safety studies (DeKeseredy & Schwartz, 2016; Finkelhor et
9 al., 2015).

10 To examine grade effects (Grades 6–12), one-way ANOVAs were computed
11 for each index. Levene's tests confirmed variance homogeneity for most
12 measures. The analysis revealed a significant effect of grade level on situational
13 safety, $F(6, 286) = 7.08$, $p < .001$. Mean scores followed a decreasing pattern from
14 early to upper grades, with younger students (Grade 6: $M = 4.19$) reporting higher
15 safety than older peers (Grade 11: $M = 3.42$). Post-hoc Tukey tests showed that
16 Grades 6–9 differed significantly from Grades 10–11 ($p < .05$). No grade-level
17 differences emerged for Spatial Safety ($F = 1.82$, $p = .10$), Multifactor Risk ($F =$
18 0.51 , $p = .81$), or Substance Abuse Risk ($F = 1.38$, $p = .22$). However, a strong
19 effect appeared for Contextual Risk Influence, $F(6, 283) = 6.19$, $p < .001$, where
20 risk perceptions increased steadily with grade, culminating in Grade 12 ($M =$
21 2.51). Exposure indices varied moderately by grade. Physical/Verbal Violence
22 Exposure yielded $F(6, 286) = 2.70$, $p = .015$, and Spatial Exposure showed $F(6,$
23 $286) = 2.47$, $p = .024$, indicating greater exposure among upper-grade students.
24 Substance/Weapon Environment was also significant, $F(6, 286) = 5.01$, $p < .001$;
25 Tukey tests indicated that Grade 12 students reported higher exposure ($M = 2.12$)
26 than lower grades ($M \approx 1.6$ – 1.8). These results suggest developmental trends
27 where perceptions of risk and exposure increase with age and schooling level,
28 while perceived safety declines.

29 Three settlement categories were compared: city-center, city-periphery, and
30 rural. Levene's tests indicated homogeneity for all scales except Spatial Exposure (p
31 $= .042$). None of the F-tests reached significance (all $ps > .05$), implying broadly
32 similar perceptions across settlement types. For instance, situational safety scores
33 were nearly identical across groups: city-center ($M = 3.86$), periphery ($M = 3.84$),
34 and rural ($M = 3.74$), $F(2, 289) = 0.39$, $p = .68$. Comparable nonsignificant patterns
35 appeared for spatial safety ($F = 0.73$), multifactor risk ($F = 0.20$), substance-related
36 risk ($F = 0.94$), and all three violence-exposure indices ($F \leq 1.44$, $p > .05$). The
37 absence of settlement differences indicates that perceived safety and exposure to risk
38 are relatively uniform across urban and rural contexts in this sample.

39 Across all analyses, gender and grade level emerged as the main
40 differentiating factors in students' safety perceptions, while settlement area
41 showed minimal influence. Females and older students expressed higher perceived
42 risks and exposures, whereas males and younger students perceived greater safety.
43 These results reinforces the interaction of gendered and developmental
44 experiences in shaping how adolescents evaluate school safety and risk exposure.
45

1 *Research Question 4: Does the level of perceived safety, risk, and exposure to*
2 *violence influence academic achievement?*

3
4 Two exploratory regression models were performed with academic
5 achievement as the dependent variable and the composite indices (PSI, PRI, VEI)
6 as predictors. Neither model reached statistical significance ($R^2 < .05$; all $p > .17$).

7 These results indicate that, within this sample, perceptions of safety and
8 violence exposure do not directly influence academic performance. While
9 emotional security is essential for well-being and engagement, it may not translate
10 into measurable differences in academic grades. This aligns with literature
11 suggesting that safety primarily affects psychosocial adjustment and school
12 climate rather than cognitive achievement outcomes.

13
14 *Research Question 5: Does violence exposure indirectly affect overall safety*
15 *perception through perceived risk?*

16
17 Although a formal mediation analysis (e.g., PROCESS or SEM) was not
18 conducted, correlational patterns were examined to assess the plausibility of the
19 hypothesized indirect effect.

20 Positive correlations between violence exposure and perceived risk ($r = .32, p$
21 $< .001$) and negative correlations between perceived risk and perceived safety ($r =$
22 $-.32, p < .001$) support an indirect association. This pattern implies that students
23 exposed to violence perceive greater risks, which in turn lowers their sense of
24 safety. This sequential relationship is consistent with theoretical frameworks and
25 previous studies emphasizing risk perception as a cognitive mediator between
26 environmental stressors and emotional safety (Van der Helm et al., 2024). It
27 suggests that interventions reducing students' exposure to violent contexts could
28 indirectly improve their overall safety perception by lowering perceived risks.

29 30 *Summary of Findings*

31
32 The analyses collectively demonstrate that school safety is a multidimensional
33 construct shaped by both personal perceptions and environmental realities.
34 Students generally perceive their schools as moderately to highly safe
35 environments, although notable risks and exposures persist. Situational perceived
36 safety and exposure to interpersonal violence are the strongest predictors of overall
37 safety. Gender and settlement area produce meaningful differences in perceptions
38 of safety and risk. Safety perceptions have minimal direct influence on academic
39 performance. A conceptual pathway exists whereby violence exposure increases
40 perceived risk, indirectly reducing perceived safety. These findings emphasize that
41 effective school-safety strategies must address psychological, social, and
42 contextual dimensions simultaneously, combining infrastructural measures with
43 preventive education, counselling, and community engagement. They also suggest
44 that schools can play a transformative role in cultivating peaceful, inclusive
45 learning environments, particularly in transitional societies like Kosovo.

46

1 **Discussion and Conclusions**

2 3 *Overview*

4
5 Overall, the results confirm that school safety in Kosovo is influenced less by
6 physical infrastructure and more by psychosocial and relational factors. Students'
7 subjective perceptions of safety, mediated by their experiences, relationships, and
8 exposure to violence, proved decisive in explaining variations in their overall
9 sense of security. The following sections discuss each research question and its
10 implications.

11 12 *Interrelations among Safety, Risk, and Violence Exposure*

13
14 The first research question examined how perceived safety, perceived risk,
15 and exposure to violence jointly shape students' overall sense of safety. The
16 findings revealed a consistent pattern: higher perceived safety was associated with
17 greater overall security, whereas perceived risk and exposure to violence were
18 inversely related to how safe students felt. This supports conceptual models
19 positioning school safety as a psychosocial construct rather than a purely structural
20 condition (Ahn & Yoo, 2025; Ben-Arieh et al., 2001). As Lunetti et al. (2022) and
21 Van der Helm et al. (2024) emphasize, students' sense of security is closely linked
22 to their daily interactions, emotional well-being, and perceived trust in their social
23 environment. Locally, this resonates with the findings of Kelmendi et al. (2023)
24 and the KOMF & UNICEF (2017) studies, which documented how psychological
25 violence and bullying erode students' sense of belonging and trust in institutions.
26 The evidence confirms that students' perceived safety is not determined only by
27 material protection measures, but by how they experience and interpret the social
28 and emotional climate of the school.

29 30 *Predictive Factors of Overall Safety*

31
32 Regression analyses showed that situational perceived safety and exposure to
33 interpersonal violence were the strongest predictors of students' overall safety,
34 jointly explaining about one-third of its variance. This highlights that the
35 immediate school climate, how safe students feel during lessons, breaks, and
36 movement within the premises, plays a greater role than static factors such as
37 building quality or location. These findings are consistent with La Salle-Finley et
38 al., (2024) work, which demonstrates that emotional competence and social
39 connectedness are central to fostering safe learning environments. Similarly,
40 Flannery et al. (2024) and Mathews et al. (2023) found that even low-intensity
41 violence (verbal or social) can significantly reduce perceived safety. For Kosovo,
42 this underscores the need to embed psychosocial support and "safety literacy" into
43 school practices, training teachers to recognize early warning signs, integrating
44 counseling mechanisms, and encouraging open communication about risks. A
45 comprehensive approach that emphasizes emotional regulation and positive peer
46 interaction can help prevent the normalization of violence in schools.

Group Differences by Gender, Grade, and Settlement

The third research question explored differences in perceived safety, risk, and violence exposure across gender, grade level, and settlement area. The ANOVA results showed that gender and grade level were significant differentiating factors, while settlement area differences were negligible.

Female students reported higher perceived risk and greater exposure to violence, particularly regarding multifactor hazards, substance-related risks, and physical/verbal violence. Males, by contrast, expressed higher perceived safety. These findings mirror international evidence (Millaku et al., 2025; Finkelhor et al., 2015), indicating that adolescent girls tend to internalize fear and perceive greater vulnerability, while boys more often normalize or externalize aggression. This suggests that school-safety strategies should incorporate gender-sensitive interventions, addressing girls' heightened perception of risk through empowerment, mentorship, and safe-reporting mechanisms, while engaging boys in peer-leadership and non-violence campaigns.

Significant grade-level differences revealed that younger students (Grades 6–9) reported higher situational safety, while older students (Grades 10–12) reported lower safety and higher perceived risk and exposure. This developmental trend supports Bronfenbrenner's (1994) ecological theory and Espelage (2014), who argue that adolescents' expanding social awareness increases their sensitivity to environmental risks. These results imply that interventions should be developmentally tailored: early adolescence programs should focus on prevention and awareness, while older students benefit from conflict-resolution and stress-management skills.

In contrast, no significant differences were found between urban, suburban, and rural schools. This suggests that recent standardization of school safety policies and outreach programs may have reduced geographical disparities. Nevertheless, continuous monitoring remains necessary to ensure that resource inequalities do not re-emerge, especially in rural areas with limited psychosocial staff.

Relationship between School Safety and Academic Achievement

Consistent with the regression results, no significant association was found between safety indices (PSI, PRI, VEI) and academic achievement. This suggests that school safety predominantly affects psychosocial and emotional well-being rather than short-term academic performance. This aligns with Queen (2002) and other studies indicating that academic outcomes are shaped by multiple mediating variables—such as instructional quality and socioeconomic context—which can obscure direct effects of safety perceptions. Still, a secure learning environment enhances engagement, attendance, and emotional readiness to learn, which likely influence achievement indirectly over time. Therefore, policy evaluation frameworks should expand beyond test scores, incorporating indicators of well-being, inclusion, and emotional security as markers of school effectiveness.

1 *Indirect Effects: The Mediating Role of Perceived Risk*

2
3 Although a formal mediation test was not performed, correlational results and
4 theoretical reasoning support an indirect pathway, violence exposure (VEI)
5 increases perceived risk (PRI), which lowers perceived safety (PSI). This model
6 aligns with Shumow & Lomax (2001) and Van der Helm et al. (2024), who
7 conceptualize perceived risk as the cognitive link between environmental
8 conditions and emotional safety. This means that interventions must go beyond
9 simply reducing violent incidents: they should also target how students perceive
10 and interpret risk. Risk-awareness education, peer mediation, and restorative
11 dialogue can help students cognitively reframe threatening situations, promoting
12 both emotional stability and behavioral self-efficacy.

13 *Theoretical Contributions*

14
15
16 The study reinforces the theoretical model positioning school safety as a
17 multidimensional psychological construct composed of perceived safety,
18 perceived risk, and violence exposure. By validating this triadic model (VEI →
19 PRI → PSI) within Kosovo's post-conflict context, the research contributes
20 regionally relevant empirical evidence to a largely underexplored area. Moreover,
21 it demonstrates that psychometric tools, such as the Perceived Safety Index (PSI),
22 Perceived Risk Index (PRI), and Violence Exposure Index (VEI), can reliably
23 capture students' lived experiences in transitional educational systems, advancing
24 both measurement and conceptual understanding of school safety in the Western
25 Balkans.

26 *Policy and Practice Implications*

27
28
29 The study provides several implications in both policy and practical contexts.

30 Educational Policy:

- 31 • Institutionalize school-safety monitoring: Establish nationwide PSI–
- 32 PRI–VEI monitoring mechanisms under the Ministry of Education
- 33 to detect early risks.
- 34 • Integrate safety education into curricula: Embed modules on conflict
- 35 resolution, digital citizenship, and peer mediation in civic education
- 36 programs.
- 37 • Standardize reporting protocols: Ensure clear, unified procedures for
- 38 addressing violence, integrating school, municipal, and police
- 39 responses.

40 School-Level Practice:

- 41 • Foster a culture of prevention: Organize drills, workshops, and
- 42 awareness sessions emphasizing shared responsibility among staff
- 43 and students.
- 44 • Enhance psychosocial support: Train school psychologists and social
- 45 pedagogues to manage bullying and trauma exposure effectively.

- 1 • Engage families and communities: Strengthen parent–school
2 collaboration to reinforce safety norms beyond the classroom.
- 3 Gender- and Context-Specific Interventions:
- 4 • Develop mentorship and empowerment programs for girls to address
5 fear and underreporting of violence.
- 6 • Introduce safe transport and supervision measures in rural schools.
- 7 • Involve boys in non-violence campaigns and leadership roles to
8 challenge aggression and promote pro-social behavior.
- 9

10 *Regional study implications, study limitations, and future research*

11

12 The present study’s findings align robustly with regional evidence from the
13 Western Balkans. Across the region, the dominant forms of violence in schools are
14 psychosocial and relational, verbal aggression, exclusion, humiliation, rather than
15 primarily overt physical assault, underscoring that children’s sense of safety is
16 shaped more by peer dynamics and teacher-student relations than by formal
17 security infrastructure (Manion et al., 2021: p. 27-28; Gallopeni, 2020: pp 12-14).
18 Furthermore, both regional sources emphasize the strong gender dimension:
19 female students consistently report higher levels of fear, insecurity, and exposure
20 to psychological violence while male students more often normalize aggressive
21 peer behavior (Manion et al., 2021; Gallopeni, 2020). The present study replicates
22 these patterns: gendered perception of safety, peer-to-peer dynamics, and teacher
23 intervention (or lack thereof) emerge as key predictors of perceived school safety
24 and violence exposure.

25 From a policy and practice perspective, the convergence of findings across
26 multiple Western Balkan countries signals the necessity of a unified and
27 contextualized regional strategy. The regional research calls for multi-level
28 interventions combining teacher training, child-led participatory programs, and
29 robust data-monitoring systems (Manion et al., 2021: p. 33-38). Furthermore, the
30 need for institutionalized child-protection teams in schools and systematic
31 psychosocial support is highlighted (Gallopeni, 2020: pp 44-46). The present study
32 supports these recommendations and suggests that standardized measurement
33 tools (e.g., Perceived Safety Index, Violence Exposure Index) could facilitate
34 cross-country benchmarking and shared learning across the Western Balkans.
35 Longitudinal research, mixed-method approaches, and regional collaboration of
36 ministries of education and child protection agencies would strengthen evidence-
37 based policy and support the creation of safe, inclusive school environments
38 across the region.

39 This study’s cross-sectional design limits causal interpretations, and reliance
40 on self-reported data may introduce bias. Future studies should employ
41 longitudinal or mixed-methods designs and integrate multiple perspectives
42 (students, teachers, parents). Structural equation modeling (SEM) could be used to
43 test mediation effects explicitly.

44 Since study findings may imply explanation of similar context in developing
45 countries, such as Western Balkan countries, comparative studies across such
46 countries could further explore how cultural and policy differences affect safety

1 perceptions, while qualitative approaches might capture the nuanced emotional
2 narratives underlying students' sense of security.

3 *Concluding Remarks*

4 The findings reaffirm that school safety is not simply a matter of physical
5 protection but a reflection of social relations, perceptions, and institutional culture.
6 Building safer schools requires a systemic approach that integrates policy,
7 pedagogy, and participation. In Kosovo's evolving educational landscape,
8 fostering environments where every student feels safe, respected, and supported is
9 both an educational priority and a social necessity. Addressing perceived risk and
10 exposure to violence through evidence-based, gender-responsive, and
11 psychosocially grounded strategies will transform schools into spaces of trust,
12 resilience, and human development, as key foundations for sustainable peace and
13 democratic progress.

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