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Prevalence and sociodemographic correlates of physical fighting among Albanian adolescents

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Abstract

This study examined the prevalence and sociodemographic correlates of physical fighting among Albanian adolescents using nationally representative data from the 2022 Health Behaviour in School-aged Children survey. The sample included 5454 schoolchildren aged 11, 13, and 15 years (response rate: 96%). Physical fighting was assessed through a self-administered anonymous questionnaire, with repeated fighting defined as three or more episodes in the past 12 months preceding the survey. Overall, 14% of adolescents reported frequent fighting, with boys significantly more likely than girls to engage in repeated episodes. Prevalence decreased with age, from 17% at 11 years to 10% at 15 years. Logistic regression analysis revealed that male gender, younger age, and higher family affluence were associated with increased odds of frequent fighting. These findings highlight gender and developmental differences in adolescent violence and underscore the need for targeted prevention strategies in Albania and similar settings.

Key words: adolescents, Albania, Health Behaviour in School-Aged Children (HBSC) Survey, physical fighting, schoolchildren.

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Introduction

Peer violence, a prevalent behaviour among adolescents,^{1,2} manifests in diverse ways, and standardized health surveys typically capture this phenomenon through multiples indicators, including self-reported involvement in physical fights.¹

A recent analysis of the "Global School-based Student Health Survey 2003-2017" including more than 190,000 adolescents aged 12-15 years from 30 countries reported a mean prevalence of past 12-month physical fight and/or physical attack at about 37%.³ Notably though, a significant decreasing trend in both physical fights and physical attacks was observed in most of the countries.³

Frequent physical fighting has been linked to adverse physical health outcomes, heightened emotional and psychological difficulties, and diminished academic performance.³⁻⁵ Data pertinent to a large sample of adolescents aged 12-15 years from 62 countries indicate that all types of adolescents' violence including physical fights are positively associated with higher odds for all types of obesogenic behaviour, excluding low levels of physical activity.⁵

Furthermore, importantly, violence victimization has been linked to suicide attempts among adolescents aged 12-15 years.⁶ Thus, in a large representative sample of adolescents from many low-to- middle income countries, the odds of suicide attempts were 70% higher among adolescents who were victims of peer physical violence.⁶ Developmental trajectories marked by the perpetration of peer violence are linked to later-life outcomes that may include adult experiences of violence, involvement in criminal activity,

and adverse physical and mental health consequences.^{1,7,8} Therefore, persistent peer violence in adolescence carries lasting health risks into adulthood.¹ While there are no population-representative data about the prevalence of physical fights among adolescents in Albania, a UNICEF report has highlighted peer violence and bullying as pressing concerns, noting their impact on emotional well-being, school engagement, and long-term developmental outcomes of Albanian children.⁹ Furthermore, a very recent study including a sample of Albanian upper secondary school students highlighted that physical aggression remains a persistent issue in school settings and is closely tied to peer violence dynamics.¹⁰ Despite growing recognition of adolescent violence as a public health concern,^{1,2} empirical evidence on the prevalence and sociodemographic correlates of physical fighting among Albanian adolescents remains limited. Existing studies in Albania have primarily focused on general risk behaviours but have not systematically quantified physical fighting across representative samples or examined its association with key sociodemographic factors. Hence, considering the limited national evidence, assessing the prevalence and sociodemographic correlates of physical fighting among Albanian adolescents is essential to inform targeted prevention strategies and align youth health policies with broader European efforts to reduce peer violence.

In this context, our aim was to assess the prevalence and sociodemographic correlates of physical fighting among adolescents in Albania, a country undergoing rapid socioeconomic and political transition.¹¹

Materials and Methods

Detailed descriptions of the study methods are available elsewhere.^{12,13}

Briefly, a cross-sectional study was carried out in the framework of the most recent round of the Health Behaviour in School-aged Children (HBSC) survey in Albania in 2022.^{12,13}

The study population included a nationwide representative sample of 5454 schoolchildren aged 11,13 and 15 years (about 52% girls, with an overall response rate of around 96%).^{12,13}

A structured self-administered anonymous questionnaire included, among other health behavioural factors, information on physical fighting, along with sociodemographic characteristics of adolescents.¹⁴

Adolescents were asked how many times in the past 12 months preceding the survey they had been involved in a physical fight.^{1,14} Response options ranged from none to four times or more.^{1,14} Fighting was conceptualized as a form of peer violence characterized by a relative balance of power between the adolescents involved.^{1,14} A cut-off of “three or more times” was used to classify fighting as a repeated behaviour, in line with the international HBSC protocol.^{1,14}

Sociodemographic characteristics consisted of adolescents’ gender, place of residence, mother’s and father’s current employment status, and family affluence scale.^{13,14}

There were 38 adolescents with inaccurate and/or missing information on physical fighting. Thus, the final response rate in the sample included in the statistical analyses was 95%.

Fisher’s exact test was applied to assess potential differences in the distribution of sociodemographic characteristics (age, residence, parental employment, and family affluence) between adolescents categorized by their involvement in physical fighting (0-2 times vs. ≥3 times in the past 12 months preceding the survey).

Binary logistic regression was employed to assess the associa-

tion of physical fighting with the sociodemographic characteristics of adolescents. First, crude (unadjusted) models were run, followed by multivariable-adjusted models controlling simultaneously for all sociodemographic characteristics (gender, place of residence, parental employment status, and family affluence scale). Odds Ratios (ORs) and their respective 95% confidence intervals (95% CIs) and p-values were calculated. Multivariable-adjusted logistic regression models met the Hosmer-Lemeshow goodness-of-fit test criterion.¹⁵ A p-value of ≤0.05 was deemed statistically significant for all tests conducted. Statistical Package for the Social Sciences (SPSS, version 19.0) was used for all the statistical analyses.

Results

Overall, about 14% of the adolescents included in this study reported engaging in physical fighting three or more times in the past 12 months preceding the survey (Table 1). Marked gender differences were observed: boys were significantly more likely than girls to report frequent fighting (around 17% vs. 10%, P<0.01). Age was also strongly associated with fighting behaviour, with prevalence decreasing steadily from approximately 17% at age 11 to 10% at age 15 (P<0.01). Conversely, no significant differences were evidenced for place of residence or parental employment status. On the other hand, interestingly, family affluence was inversely related to fighting prevalence: adolescents from more affluent families reported higher levels of frequent fighting compared to their less affluent peers (about 15% vs. 12%, respectively; P<0.01).

Crude (unadjusted) binary logistic regression analyses confirmed that male gender, younger age, and higher family affluence were significantly associated with frequent physical fighting among Albanian adolescents included in this study (Table 2 – upper panel).

Table 1. Sociodemographic distribution of physical fighting in the past 12 months in a large nationwide representative sample of Albanian adolescents in 2022 (N=5416).

Sociodemographic characteristics	Physical fighting in the past 12 months		p [†]
	0-2 times (N=4681)	≥3 times (N=735)	
Gender			<0.001
Boys	2142 (82.8)*	445 (17.2)	
Girls	2539 (89.7)	290 (10.3)	
Total	4681 (86.4)	735 (13.6)	
Age			<0.001
11 years	1466 (82.7)	307 (17.3)	
13 years	1530 (86.4)	241 (13.6)	
15 years	1679 (90.0)	186 (10.0)	
Residence			0.643
Urban areas	3138 (86.6)	486 (13.4)	
Rural areas	1543 (86.1)	249 (13.9)	
Father employed			0.944
Yes	4233 (86.5)	662 (13.5)	
No	413 (86.4)	65 (13.6)	
Mother employed			0.230
Yes	3142 (86.1)	508 (13.9)	
No	1485 (87.3)	216 (12.7)	
Family affluence			<0.001
Less affluent	2281 (88.2)	305 (11.8)	
More affluent	2286 (84.7)	413 (15.3)	

* Absolute numbers and their respective row percentages (in parentheses). Discrepancies in the totals are due to the following missing covariate values: age of schoolchildren (n=7), father’s employment status (n=43); mother’s employment status (n=65); and family affluence score (n=131). † P-values from Fisher’s exact test.

In the multivariable-adjusted models (lower panel), boys had significantly higher odds of reporting three or more fights in the past year compared to girls (OR=1.8, 95%CI=1.5-2.1). Younger adolescents were also more likely to engage in repeated fighting episodes, with 11-year-olds showing nearly twice the odds relative to 15-year-olds (OR=1.9, 95%CI=1.5-2.3), and 13-year-olds also at elevated risk (OR=1.4, 95%CI=1.1-1.7). By contrast, residence (urban vs. rural) and parental employment status were not significantly associated with fighting behaviour in either crude (upper panel) or adjusted (lower panel) models. However, family affluence persisted as a significant predictor (lower panel): adolescents from more affluent families had significantly higher odds of frequent fighting compared to their less affluent peers (OR=1.3, 95%CI=1.1-1.6).

Discussion

About one in seven adolescents included in our study reported frequent physical fighting (one in six boys vs. one in ten girls). Furthermore, younger adolescents were significantly more likely to engage in repeated fights compared to older ones. Also, interestingly, family affluence was linked to higher levels of fighting, with wealthier adolescents reporting greater involvement than their less affluent peers. In contrast, factors such as place of residence and parental employment status were not significantly associated with fighting behaviour. According to a multi-country report including all 44 countries which participated in the last round of HBSC survey conducted in 2021-2022 in Europe, Central Asia and Canada,

Table 2. Association of physical fighting in the past 12 months with sociodemographic characteristics of Albanian adolescents; results from binary logistic regression analyses.

Upper panel: crude/unadjusted models			
Sociodemographic factors	OR*	95%CI*	p*
Gender			<0.001
Boys	1.82	1.55-2.13	
Girls	1.00	reference	
Age			<0.001 (2)†
11 years	1.89	1.56-2.30	<0.001
13 years	1.42	1.16-1.74	<0.001
15 years	1.00	reference	-
Residence			0.624
Urban areas	0.96	0.81-1.13	
Rural areas	1.00	reference	
Father employed			0.964
Yes	0.99	0.76-1.31	
No	1.00	reference	
Mother employed			0.225
Yes	1.11	0.94-1.32	
No	1.00	reference	
Family affluence			<0.001
More affluent	1.35	1.15-1.58	
Less affluent	1.00	reference	
Lower panel: multivariable-adjusted models			
Sociodemographic factors	OR‡	95%CI‡	p‡
Gender			<0.001
Boys	1.81	1.53-2.13	
Girls	1.00	reference	
Age			<0.001 (2)†
11 years	1.89	1.55-2.31	<0.001
13 years	1.37	1.12-1.69	0.003
15 years	1.00	reference	-
Residence			0.462
Urban areas	0.94	0.79-1.11	
Rural areas	1.00	reference	
Father employed			0.230
Yes	0.84	0.63-1.12	
No	1.00	reference	
Mother employed			0.309
Yes	1.10	0.92-1.31	
No	1.00	reference	
Family affluence			<0.001
More affluent	1.34	1.14-1.59	
Less affluent	1.00	reference	

* Odds ratios (ORs: physical fighting ≥ 3 times vs. 0-2 times in the past 12 months preceding the survey) and their respective 95% confidence intervals (95%CIs) and p-values from crude/unadjusted binary logistic regression models. † Overall p-value and degrees of freedom (in parenthesis). ‡ ORs and their respective 95%CIs and p-values from binary logistic regression models adjusted simultaneously for all sociodemographic factors.

on average, one in ten adolescents reported having been involved in physical fights at least three times in the last 12 months preceding the survey,¹ an estimate which is lower than our findings pertinent to Albanian adolescents (overall prevalence: about 14%). This difference between Albania and the average of 44 HBSC participating countries is evidenced in both boys (17% in Albania vs. 14% of the average estimate in the 44 HBSC participating countries¹) and girls (10% vs. 6%,¹ respectively). As a matter of fact, gender differences were consistent in almost all HBSC participating countries, with boys reporting higher levels of physical fighting than girls.¹

Additionally, significant age differences were observed in most of the countries, where physical fighting was most common among the youngest adolescents and exhibited a steady decline as age increased.¹

Also, our finding on the positive relationship of frequent physical fighting with family affluence is generally compatible with the other HBSC participating countries, where especially boys from wealthier families were more likely to report involvement in physical fights.¹

On another aspect, at a multi-country level, the proportion of adolescents who reported fighting has remained relatively stable during 2014-2022.¹ The trends indicate a modest decline among boys and a slight rise among younger girls, particularly those in early adolescence, though these shifts remain relatively minor overall.¹

Previous research in Albania has documented significant levels of aggression and peer violence among adolescents.^{16,17} Thus, a previous study has reported on teenage aggression in Albania, emphasizing the role of developmental and social factors in shaping violent behaviours.¹⁷ Another previous study conducted in Albania has reported a high prevalence of both direct and indirect aggression among 17-year-old students, with marked gender and urban-rural differences.¹⁶ In our study, we also evidenced gender differences in the prevalence of physical fights but not urban-rural differences. This discrepancy suggests that the manifestation of aggression among Albanian adolescents may be more nuanced, and that methodological, contextual, or temporal factors could account for the contrasting results. The previous study conducted in Albania examined both direct and indirect aggression,¹⁷ which are highly sensitive to social and cultural environments.¹⁸ Urban-rural disparities in relational aggression, for instance, may reflect differences in peer group structures, community norms, or exposure to social stressors.¹⁸ In contrast, our focus on physical fights captures a narrower, more overt form of aggression that may be less influenced by geographic context and more universally tied to adolescent developmental dynamics, peer hierarchies, and gender identity.^{19,20}

Potential limitations of our study include the cross-sectional design, the possibility of information bias (in particular, underreporting of physical fights by adolescents), and the lack of control for important contextual variables such as family structure, or school climate.

Despite these limitations, our study provides valuable evidence on the extent and sociodemographic correlates of physical fighting among Albanian adolescents.

Conclusions

Overall, our analysis revealed that male gender, younger age, and higher family affluence were consistent predictors of frequent

physical fighting, whereas parental employment and place of residence played no role.

Our findings suggest that policies in Albania should prioritize gender-sensitive, and age-appropriate interventions to reduce adolescent physical fighting. At a wider level, our study contributes to the international literature by showing that physical fighting among adolescents may represent a universal developmental and social phenomenon, thereby advancing cross-cultural understanding of how aggression manifests across diverse settings.

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Conflicts of interest: the authors declare no conflict of interest.

Ethical approval: the study was approved by the Ethics Committee of Tirana Medical University (approval ID: No.700/1), and all procedures were conducted in accordance with the Declaration of Helsinki. All schoolchildren were informed about the objectives and procedures of the study, as well as the aspects regarding the anonymity of the survey and the subsequent aggregated data analysis.

Data availability statement: the data presented in this study is available upon reasonable request from the corresponding author.

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