

Prevalence of Peer Bullying in Secondary Education and Its Relation with High School Entrance Scores

Selma Tural Hesapcioglu¹,
Mustafa Kemal Tural²

¹Ankara Yıldırım Beyazıt University, Faculty of Medicine,
Department of Child and Adolescent Psychiatry, Ankara - Turkey
²Middle East Technical University, Faculty of Engineering,
Industrial Engineering, Ankara - Turkey

ABSTRACT

Prevalence of peer bullying in secondary education and its relation with high school entrance scores

Objective: In this study, our aims are to investigate the prevalence of bullying and the relationship between high school entrance exam scores and the bullying cycle and to examine the risk factors of peer bullying in high schools.

Method: High schools in one province were divided into three groups based on the entrance scores of their students (from a nationwide exam), and from each group, schools and classes were selected using simple random sampling. The data analyzed were obtained by administration of the Peer Bullying Questionnaire to 1,375 selected students.

Results: The prevalence of bullying, victimization, and students' participation in the bullying cycle were found to be 30.5%, 27.9%, and 42.0%, respectively. A statistically significant relationship between the bullying cycle status and school groups was observed. The risk factors of entering into the bullying cycle were identified as being a student of a school with a low entrance score, being male, being a student in lower grade levels, and being a student in a class with a low female-over-male ratio.

Conclusion: The results of this study support the hypothesis that students in schools requiring a lower entrance score are more likely to be in the bullying cycle. This result may be useful in targeting bullying interventions more effectively.

Keywords: Academic achievement, bullying, prevalence, school, victimization

ÖZ

Liselerde akran zorbalığı sıklığı ve ortaöğretim giriş sınavı puanları ile ilişkisi

Amaç: Bu araştırmanın amacı, lise öğrencileri arasında zorbalık sıklığının, zorbalık döngüsüne girmenin lise giriş sınavı puanı ile ilişkisinin incelenmesi ve liselerdeki akran zorbalığının risk faktörlerinin belirlenmesidir.

Yöntem: Bir ildeki liseler öğrenci kabul ettikleri puanlara (ülke çapında yapılan sınav puanına) göre gruplandırıldı, her gruptan basit rastgele örnekleme yöntemi ile okullar ve sınıflar seçildi. Akran Zorbalığı Anketi verilen 1,375 öğrencinin verileri analiz edildi.

Bulgular: Zorba olma, kurban olma ve zorbalık döngüsüne girme sıklıkları sırasıyla %30.5, %27.9 ve %42.0 olarak belirlendi. Okul grupları ile zorbalık döngüsüne girme durumu arasında istatistiksel olarak anlamlı bir ilişki vardı. Zorbalık döngüsüne girmenin risk faktörleri, düşük puanla öğrenci kabul eden okulun öğrencisi olmak, erkek olmak, lisenin daha alt sınıflarının öğrencisi olmak ve kız/erkek oranı daha düşük olan sınıflarda öğrenci olmak olarak belirlendi.

Tartışma: Bu araştırmanın sonuçları, daha düşük puanla öğrenci kabul eden okulların öğrencilerinin daha fazla zorbalık döngüsüne girdikleri hipotezimizi desteklemektedir. Bu sonuç, zorbalığa yönelik müdahalelerin hedeflerinin belirlenmesinde ilgili profesyonellere yol gösterici olacaktır.

Anahtar kelimeler: Akademik başarı, zorbalık, yaygınlık, okul, kurban olma



How to cite this article: Tural-Hesapcioglu S, Tural MK. Prevalence of peer bullying in secondary education and its relation with high school entrance scores. Dusunen Adam The Journal of Psychiatry and Neurological Sciences 2018;31:347-355.
<https://doi.org/10.5350/DAJPN2018310403>

Address reprint requests to / Yazışma adresi:
Selma Tural Hesapcioglu,
Ankara Yıldırım Beyazıt University, Faculty of
Medicine, Department of Child and
Adolescent Psychiatry, Ankara, Turkey

Phone / Telefon: +90-312-587-2065

E-mail address / Elektronik posta adresi:
selmahesapcioglu@yahoo.com

Date of receipt / Geliş tarihi:
March 1, 2018 / 1 Mart 2018

Date of the first revision letter /
İlk düzeltme öneri tarihi:
March 22, 2018 / 22 Mart 2018

Date of acceptance / Kabul tarihi:
May 26, 2018 / 26 Mayıs 2018

INTRODUCTION

Bullying in schools is a global problem that has negative short- and long-term health consequences for both the bullies and the victims (1,2). Research on bullying was pioneered by Olweus with his groundbreaking work in 1970s (3). Since then, interest in bullying and bullying prevention, especially in schools, has increased markedly worldwide. School bullying can be defined as intentional repeated aggressive acts of a student or a group of students against other weaker student(s). These acts can take forms such as verbal, physical, psychological, and sexual assault, etc. (4).

Bullying may involve types of different direct attacks on the victim(s) such as teasing, taunting, hitting, pushing, kicking, threatening, or stealing from them, or it may involve types of different indirect attacks such as spreading rumors or lies or ignoring the victim (3). Boys are more likely to engage in direct bullying, whereas girls are more prone to participate in indirect bullying (5).

There are several factors affecting bullying behavior or victimization such as age, gender, individual characteristics, psychiatric status, the environment in which the person lives/lived, friends' group, and school climate (6-10). School climate refers to a multitude of factors affecting students' experience at school. When the relationship between bullying in schools and academic performance is examined, it can be seen that bullying has a school-wide impact linked to a decrease in the level of academic involvement and achievement (11).

In general, as the grade level and age of a student increase, the likelihood of being a bullying victim decreases (5,12-15). Most of the studies in the literature report that bullying is more common among boys than girls (5,15-17). However, in some countries/cultures the opposite is also observed. A study conducted in 66 countries and territories found that in 15 countries and territories, victimization was more prevalent in girls, though the differences of the prevalence between boys and girls were relatively small (<5.0%) in all 15 countries (18). In 26 countries

and territories, however, the prevalence of bullying victimization for boys was more than 5.0% higher than that for girls.

In the literature, a large variation exists across countries among the values reported for the prevalence of bullying in schools (12,18-22). A study conducted in 78 public and 22 private high schools in the US reports that approximately 50.0% of students bullied others and 47.0% were exposed to at least one type of bullying (23). The study by Due et al. (18) mentioned above established the prevalence of bullying victims among 13-15-year-old school children in 66 countries and territories based on two large international surveys. The reported values range between 7.1% (in Tajikistan) and 67.1% (in Zambia) for girls and 7.1% (in Tajikistan) and 70.2% (in Zimbabwe) for boys. The two surveys employed in the study use the same definition of bullying victimization. However, they differ in the way that bullying is measured: one of them questions whether the student has been bullied in the past two months, while the other asks the same question for the past 30 days.

The same team observed that the prevalence of victimization is consistently high in the Baltic and most African countries (18). Other than this geographical pattern, the authors state that the prevalence of victimization could be quite different for countries that are in the same geographical region and that are reckoned to have similar cultures, e.g., Sweden vs. Denmark and Spain vs. Portugal.

Prevalence and risk factors of bullying may show significant differences not only across different countries, but also in different schools in the same province of one country. Some studies have suggested that school size (6) and socio-economic status (17,24) are important factors that may be related to bullying in schools. Due to differences between different schools in terms of bullying characteristics, for best practices in school mental health it is important to develop bullying prevention and intervention strategies not only specific to country or culture, but also specific to individual schools.

In Turkey, after completing primary school all students take a nationwide centrally administered high

school entrance examination. Based on the scores and preferences of the students, each one is placed in a high school. Some schools accept students with higher scores, some with lower ones, while some do not impose any restrictions according to the scores.

One of the purposes of this study is to investigate the relationship between peer bullying in schools and high school entrance scores by comparing the proportion of students involved in the bullying cycle (as a bully, bullying victim, or both) in terms of gender, age, and grade level in high schools grouped according to the required entrance scores.

Our second purpose is to examine certain risk factors of peer bullying in different school groups. Although there has been some research in the literature investigating bullying in different types of schools like vocational high schools, private and public high schools (17) and evaluating risk factors of bullying victimization in schools in rural areas (24), no attempt has been made to investigate bullying in schools grouped according to their required entrance scores. It is believed that this paper will be useful in prioritizing schools and targeting bullying interventions more effectively.

METHOD

This study was started after receiving the necessary permission from the Provincial Directorate of National Education of Turkey (PDNE). According to data obtained from the PDNE, there were 10,207 high school students in the center of the province of Mus (in the east of Turkey). To estimate the prevalence of peer bullying (i.e., percentage of high school students who are in the bullying cycle as a bully, bullying victim, or both) in Mus within a margin of error of $\pm 4\%$ at a 95% confidence level, we first calculated the sample size required for our study. Based on previous studies, we expected the prevalence of bullying in Mus to be around 40%. We determined that the size of our sample should be 547 if simple random sampling was employed. Given that multistage sampling was employed, taking the design factor as two, we concluded that a sample size of at least 1,094 was needed.

We categorized high schools according to the entrance exam scores of the students they recruit based on an expert opinion. Group 1 high schools recruit students with high entrance scores (417 points or higher), group 2 with middle-range scores (scores between 360 and 417 points), whereas group 3 schools recruit students with low scores (below 360 points). We applied a multistage sampling strategy to select our sample. First, schools are selected from each group using simple random sampling based on the required sample size and the proportion of students within each group. Then, within the selected schools, classes are chosen randomly, making sure that the number of students reached is at least 10% higher than the required number for each school group. Data were collected from 1,432 selected students.

All procedures performed in this study involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

This study was started after receiving the necessary permission from the Provincial Directorate of National Education of Turkey (PDNE) and Karadeniz Technical University Ethics Board. Informed consent was obtained from all individual participants included in the study.

Measures

Peer Bullying Questionnaire: The questionnaire developed by Piskin (15) can be administered to fourth- to twelfth-grade students. This questionnaire categorizes each student as a non-victim bully, non-bully victim, bully-victim, or non-involved (in the bullying cycle).

At the beginning of the questionnaire, students are given the definitions of bullying and related terms (e.g., different types of bullying). In the questionnaire, bullying is defined as "intentional repeated aggressive acts of a student or a group of students against other weaker student(s)". Then the questionnaire asks about the respondent's grade level, age, and the gender. Next, the participant is asked whether she/he has been a bullying victim in the last year, and if so, several

follow-up questions are asked (e.g., time, type(s) and frequency of victimization, the place in which the bullying took place). Then questions related to bullies follow. Different types of questions were used in the questionnaire: yes/no, Likert-type scale, and multiple choice questions. The validity and reliability of the questionnaire was examined by Piskin (15). Content validity was evaluated by 15 experts with an 80.0% agreement on the test items. The test-retest reliability coefficients of the victimization subscale and the bullying subscale for middle school children were found to be 0.79 and 0.85, respectively.

Procedure

Completion of the Peer Bullying Questionnaire took the participants about 20-30 minutes. Out of the 1,432 participants that completed the questionnaire, 57 were excluded from the analyses because of missing data. Data obtained from 1,375 participants were analyzed in this study.

Statistical Analysis

IBM SPSS Statistics 20.0 package was used for statistical analysis. When multiple pairwise tests were applied on a single set of data, the Bonferroni correction was used and the p-values were multiplied by the number of tests performed. The chi-square test was used to assess whether the distributions of categorical variables differed from one another. In the comparison of the proportions obtained from two groups, the Z-test was used. In all statistical tests, the significance level was set to $p < 0.05$. A logistic regression analysis with forward selection was conducted to evaluate the risk factors of involvement in the bullying cycle.

RESULTS

The data obtained from 1,375 participants were used in the analyses. The sample consisted of 455 girls (33.1%) and 920 boys (66.9%). These proportions were in line with the proportions in the population of high schools in the Mus. High schools were divided into three groups based on the entrance scores: Group 1 schools recruit students with high scores, whereas group 3 accepts those with low scores. The numbers of students included in this study from group 1, group 2, and group 3 were 200 (14.5%), 627 (45.6%), and 548 (39.9%), respectively.

Looking at the participants' grade levels, 394 (28.7%) were in ninth grade, 485 (35.3%) were in tenth grade, 341 (24.8%) were in eleventh grade, and 155 (11.3%) were in twelfth grade. The sample consisted of 379 participants aged 15 years or younger (27.6%), 376 participants who were 16 years old (27.3%), 367 participants aged 17 years (26.7%), and 253 (18.4%) who were 18 years old or older.

Prevalence of Bullying in High Schools

Three hundred and thirty-two students (24.1%) answered the question "Have you been victimized in the past year?" in the affirmative, 404 (29.4%) students answered affirmatively that they had bullied other students in the last year. The numbers and percentages of participants in the bullying cycle are presented in Table 1. Note that a student can be a non-victim bully, non-bully victim, bully-victim, or non-involved (in the bullying cycle). The last column in Table 1 gives the weighted averages which take into account the group sizes and the sample size taken from each group. Overall, taking the weighted average, we estimate the proportion of students involved in the bullying cycle

Table 1: Prevalence of students in the bullying cycle

Bullying Status	Number of Students	Percentage (%)	Weighted Average (%)
Non-involved	831	60.4	57.9
Non-victim bully	212	15.4	14.2
Non-bully victim	140	10.2	11.6
Bully-victim	192	14.0	16.3
Involved in the bullying cycle	544	39.6	42.0

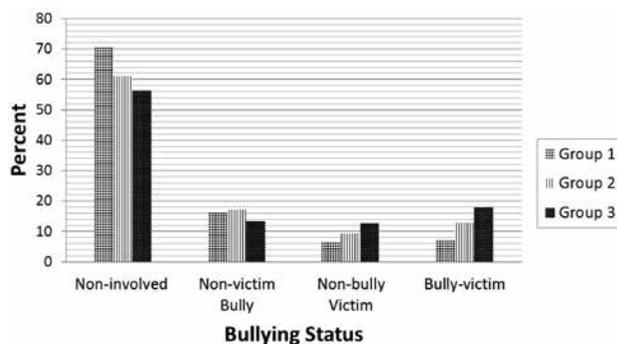
Table 2: Distribution of the bullying status for school groups

Bullying Status	School Group						Total (%)	
	Group 1		Group 2		Group 3			
	n	%	n	%	n	%	n	%
Non-involved	141	70.5	382	60.9	308	56.2	831	60.4
Non-victim bully	32	16.0	107	17.1	73	13.3	212	15.4
Non-bully victim	13	6.5	58	9.3	69	12.6	140	10.2
Bully-victim	14	7.0	80	12.8	98	17.9	192	14.0
Involved in the bullying cycle	59	29.5	245	39.1	240	43.8	544	39.6
Total	200	100.0	627	100.0	548	100.0	1,375	100.0

in Mus to be 42.1%. These students are either non-victim bullies, non-bully victims, or bully-victims.

Relationship between School Groups and Bullying

One of the aims of this study is to compare the prevalence of any bullying status in different school groups. In Table 2, the distribution of the peer bullying status for each school group is given. The relation between school groups and bullying status can be clearly seen in Figure 1. This figure shows that bullying is more common in group 3 and less common in group 1. Applying a chi-square test, it was found that school groups and bullying status are not independent ($\chi^2=27.658$; $df=6$ [degrees of freedom]; $p<0.0002$).

**Figure 1: Distribution of bullying status for all school groups**

1) Proportions of victims in different school groups

When asked "Have you been victimized in the past year?", 27 students from Group 1 (13.5%), 138 from

Table 3: Results of the pairwise Z-tests comparing the proportions of victims in different school groups

	Z-value	p-value	Bonferroni-corrected p-value
Group 1 - Group 2	2.62203	0.0044	0.0131
Group 1 - Group 3	4.68809	<0.0001	<0.0001
Group 2 - Group 3	3.30183	0.0005	0.0014

Pairwise Z-tests have been performed (one for each pair of groups) and Bonferroni correction has been used to inflate the p-values

group 2 (22.0%), and 167 from group 3 (30.5%) answered affirmatively. The total number of bullying victims in our sample was 332 (24.1%). A chi-square test showed that there is a statistically significant difference between the groups in terms of victimization ratios ($\chi^2=25.921$; $df=2$; $p<0.0001$).

Pairwise Z-tests (Table 3) showed that the proportion of victims in group 3 is significantly higher than the proportion of victims in group 2, which in turn is significantly higher than that in group 1. We used the Bonferroni correction and inflated the calculated p-values by 3 in all three Z-tests.

2) Proportions of bullies in different school groups

Overall, 404 students (29.4%) answered the question "Have you bullied someone in the past year?" affirmatively. Out of these students, 46 (23.0%) were from group 1, 187 (29.8%) from group 2, and 171 (31.2%) from group 3. While the percentage of bullies shows an increase from group 1 to group 3, a chi-square test found a non-significant p-value of 0.088. We think that this is due to the sample size of our

Table 4: Results of the pairwise Z-tests comparing the proportions of students in the bullying cycle in different school groups

	Z-value	p-value	Bonferroni-corrected p-value
Group 1 - Group 2	2.4454	0.0072	0.0217
Group 1 - Group 3	3.5326	0.0002	0.0006
Group 2 - Group 3	1.6396	0.0505	0.1516

Pairwise Z-tests have been performed (one for each pair of groups) and Bonferroni correction has been used to inflate the p-values

study. The differences between the percentages may become statistically significant if the study is conducted with a larger sample.

3) Proportions of students in the bullying cycle in different school groups

The proportions of students involved in the bullying cycle were 29.5%, 39.1%, and 43.8% for students in groups 1, 2, and 3, respectively. A chi-square test showed that these differences are statistically significant ($\chi^2=12.638$; $df=2$; $p<0.002$). Again, pairwise Z-tests were performed, and considering these tests as a single group of tests, the p-values were inflated using the Bonferroni correction (Table 4). The proportion of students that are involved in the bullying cycle in group 1 turned out to be statistically smaller than that of groups 2 and 3. There was a difference of about 4.7% between the proportion of students involved in the bullying cycle in group 2 and group 3. This difference, however, was not found to be statistically significant.

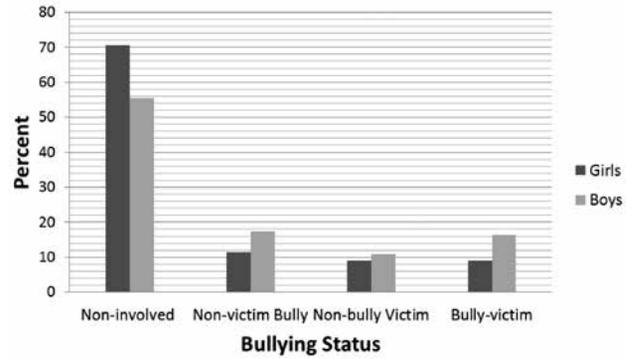


Figure 2: Distribution of bullying status (of all the participants) with respect to gender

Gender and the Bullying Cycle

Figure 2 displays the distribution of bullying status for all girls and boys. A similar pattern is observed if the figure is drawn based only on the students taken from any one of the school groups. With respect to gender, the number and percentage of students for each bullying status is given in Table 5 for each school group.

The alternative hypotheses are that the proportion of victims, bullies, and students that are in the bullying cycle is higher in boys than girls. It is seen that boys have significantly higher proportions when the proportions of victims ($Z=3.73$, $p<0.0001$), bullies ($Z=5.12$, $p<0.0001$), and students in the bullying cycle ($Z=5.39$, $p<0.0001$) are compared with respect to gender (boys vs. girls) using one-sided Z-tests.

The proportion of students that are in the bullying cycle is statistically higher in boys than girls within each school group as well (for group 1: $Z=1.81$, $p=0.03$; for group 2: $Z=2.80$, $p=0.002$; for group 3: $Z=4.70$, $p<0.0001$).

Table 5: Distribution of bullying status with respect to gender for each school group

Bullying Status	School Group											
	Group 1				Group 2				Group 3			
	Girls		Boys		Girls		Boys		Girls		Boys	
	n	%	n	%	n	%	n	%	n	%	n	%
Non-involved (in the bullying cycle)	44	80.0	97	66.9	146	68.5	236	57.0	131	70.1	177	49.0
Non-victim bully	6	10.9	26	17.9	30	14.1	77	18.6	16	8.6	57	15.8
Non-bully victim	2	3.6	11	7.6	18	8.5	40	9.7	21	11.2	48	13.3
Bully-victim	3	5.5	11	7.6	19	8.9	61	14.7	19	10.2	79	21.9
Total	55	100.0	145	100.0	213	100.0	414	100.0	187	100.0	361	100.0

Risk Factors of Involvement in the Bullying Cycle

A logistic regression analysis was conducted to evaluate the risk factors of being involved in the bullying cycle. The predictors included were: school group, grade level, gender, proportion of girls in the classroom, and number of students in the classroom. As the alternative hypotheses are directional, we used a one-sided test in our logistic regression analysis. According to the results, students in group 1-schools are less likely to be involved in the bullying cycle than students in group 3-schools (OR [odds ratio]=0.477, confidence interval [CI] for OR=[0.335, 0.679] $B=-0.740$, $p<0.0001$), and similarly, students in group 2-schools are less likely to be involved in the bullying cycle than students in group 3-schools (OR=0.813, CI for OR=[0.641, 1.032], $B=-0.207$, $p=0.0442$). As the grade level of a student increases, the risk of involvement in the cycle decreases (OR=0.837, CI for OR=[0.744, 0.941], $B=-0.178$, $p=0.0015$). As the proportion of girls in a class increases, the risk of entering into the cycle decreases (OR=0.341, CI for OR=[0.199, 0.585], $B=-1.075$, $p<0.0001$). Being a girl decreases the risk as well (OR=0.661, CI for OR=[0.497, 0.880], $B=-0.414$, $p=0.0023$).

DISCUSSION

Bullying, a form of aggression, affects everyone involved (not just the victims), and a high proportion of students may willingly or unwillingly become a part of the bullying cycle. This study reveals a high prevalence of bullying and victimization (around 30% and 28%, respectively) among high school students.

The prevalence of bullying and risk factors of involvement in the bullying cycle may differ not only from country to country or culture to culture, but also from school to school within the same province of a country. For this reason, school-specific risk factors should be investigated when predicting the degree of bullying occurring in a school and/or targeting bullying interventions more effectively.

In this study, it is shown that students in schools

requiring higher entrance scores tend not to be involved in the bullying cycle as much as those from schools requiring lower scores. Although bullying has been evaluated in different types of schools like vocational high schools, private and public high schools (17) and in schools in rural areas (24), no study attempted to assess bullying according to schools' required entrance scores.

A number of studies in the literature investigated the relationship between bullying and academic achievement (10,25,26). It has been shown that bullying has a school-wide impact linked to a decrease in the level of academic involvement and achievement (11). A recent study examining the effects of school climate on academic achievement showed that the achievement in maths is negatively correlated with bullying in school (27). Previous studies indicated that bullies and victims tend to have poor social skills and lower problem solving abilities, which is a sub-component of intelligence (15,28); and as the emotional quotient, the ability to sense, understand, and control the emotions of oneself and others, increases, antisocial behaviors and involvement in bullying decrease (29). The results of this study support our hypothesis that students in schools requiring lower entrance scores are more likely to be in the bullying cycle.

When we examine the relationship between bullying, gender and grade, the results of this study are consistent with previous reports (12,14,15,17). We found that being a student in lower grade levels and being male increase the risk of involvement in the bullying cycle. A previous study conducted in Turkey showed that both bullying and victimization rates decrease in the last two grades of high school (30). The decrease in the rates of students that are involved in the bullying cycle with increasing grade level may be explained by the transition of individuals from a self-centered to an abstract level of thinking that consists of higher cognitive functions like analysis, synthesis, transfer, and generalization in problem solving. The stress of preparing for the university entrance exam may be another explanation of this finding in higher grades.

A new finding of this study is that the risk of involvement in the bullying cycle is higher for students in a class with a lower female ratio. Further studies are needed to infer whether this risk factor is specific to certain cultures/countries/schools or is more globally prevalent. A weakness of the present study is that peer bullying was evaluated using a single questionnaire.

The adolescents participating in this study are not evaluated in terms of psychopathologies. In particular, neurodevelopmental disorders with executive dysfunction or depression (30,31) may contribute to a lower academic achievement and behavioral problems such as attention-deficit/hyperactivity disorder (ADHD). Thus, childhood neurodevelopmental disorders (ADHD, intellectual disability, etc.) should also be examined to understand bullying behavior better.

This is the first study known to the authors that looked at bullying in different groups of school defined on the basis of their required entrance exam scores. Such school-specific information on bullying may be used in targeting bullying interventions and should be taken into consideration for best practice in school mental health. Our results show that being a student of a school with a low entrance score, being a lower-grade level student, being male, and being a student in a class with a lower female-over-male ratio increase the risk of involvement in the bullying cycle. A previous study showed that only a small part of the

victimized students talk with a teacher or administrator about the bullying that he/she encountered (32). Students should be encouraged to report bullying incidents, and there should be clear mechanisms for recording, investigation, and acting quickly.

Contribution Categories		Author Initials
Category 1	Concept/Design	S.T.H., M.K.T.
	Data acquisition	S.T.H.
	Data analysis/Interpretation	S.T.H., M.K.T.
Category 2	Drafting manuscript	S.T.H., M.K.T.
	Critical revision of manuscript	S.T.H., M.K.T.
Category 3	Final approval and accountability	S.T.H., M.K.T.
Other	Technical or material support	M.K.T.
	Supervision	N/A
	Securing funding (if applicable)	N/A

Acknowledgement: The authors thank Habibe Yesilova Meraler for her contributions to the study design and data collection.

Informed Consent: Written consent was obtained from the participants.

Peer-review: Externally peer-reviewed.

Conflict of Interest: Authors declared no conflict of interest.

Financial Disclosure: Authors declared no financial support.

REFERENCES

- Bowes L, Wolke D, Joinson C, Lereya ST, Lewis G. Sibling bullying and risk of depression, anxiety, and self-harm: a prospective cohort study. *Pediatrics* 2014; 134:1032-1039. [\[CrossRef\]](#)
- Garcia-Moya I, Suominen S, Moreno C. Bullying victimization prevalence and its effects on psychosomatic complaints: can sense of coherence make a difference? *J Sch Health* 2014; 84:646-653. [\[CrossRef\]](#)
- Olweus D. *Bullying at school: What we know and what we can do*. Cambridge, MA: Blackwell Publishers, 1993.
- Smith PK, Ananiadou K. The nature of school bullying and the effectiveness of school-based interventions. *Journal of Applied Psychoanalytic Studies* 2003; 5:189-209. [\[CrossRef\]](#)
- Yen CF. School bullying and mental health in children and adolescents. *Taiwanese Journal of Psychiatry* 2010; 24:3-13.
- Bowes L, Arseneault L, Maughan B, Taylor A, Caspi A, Moffitt TE. School, neighborhood, and family factors are associated with children's bullying involvement: a nationally representative longitudinal study. *J Am Acad Child Adolesc Psychiatry* 2009; 48:545-553. [\[CrossRef\]](#)
- Espelage DL, De La Rue L. School bullying: its nature and ecology. *Int J Adolesc Med Health* 2011; 24:3-10.
- Goldweber A, Waasdorp TE, Bradshaw CP. Examining associations between race, urbanicity, and patterns of bullying involvement. *J Youth Adolesc* 2013; 42:206-219. [\[CrossRef\]](#)

9. Benedict FT, Vivier PM, Gjelsvik A. Mental health and bullying in the United States among children aged 6 to 17 years. *J Interpers Violence* 2015; 30:782-795. **[CrossRef]**
10. Wang W, Vaillancourt T, Brittain HL, McDougall P, Krygsman A, Smith D, Cunningham CE, Haltigan JD, Hymel S. School climate, peer victimization, and academic achievement: results from a multi-informant study. *Sch Psychol Q* 2014; 29:360-377. **[CrossRef]**
11. Lacey A, Cornell D. The impact of teasing and bullying on schoolwide academic performance. *J Applied School Psychology* 2013; 29:262-283. **[CrossRef]**
12. Alikasifoglu M, Erginoz E, Ercan O, Uysal O, Albayrak-Kaymak D. Bullying behaviours and psychosocial health: results from a cross-sectional survey among high school students in Istanbul, Turkey. *Eur J Pediatr* 2007; 166:1253-1260. **[CrossRef]**
13. DeVoe JF, Bauer L. Student Victimization in U.S. Schools: Results from the 2009 School Crime Supplement to the National Crime Victimization Survey (NCES 2012–314). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office, 2011.
14. Kepenekci YK, Cinkir S. Bullying among Turkish high school students. *Child Abuse Negl* 2006; 30:193-204. **[CrossRef]**
15. Piskin M. School bullying: Definition, types, related factors, and strategies to prevent bullying problems. *Educational Sciences: Theory and Practice* 2002; 2:531-562.
16. Alikasifoglu M. Peer abuse. *Turk Pediatri Ars* 2011; 46:31-34. (Turkish)
17. Ayas T, Piskin M. Investigation of bullying among high school students with regard to sex, grade level and school type. *Elementary Education Online* 2011; 10:550-568.
18. Due P, Holstein BE, Soc MS. Bullying victimization among 13 to 15 year-old school children: results from two comparative studies in 66 countries and regions. *Int J Adolesc Med Health* 2008; 20:209-221. **[CrossRef]**
19. Craig W, Harel-Fisch Y, Fogel-Grinvald H, Dostaler S, Hetland J, Simons-Morton B, Molcho M, de Mato MG, Overpeck M, Due P, Pickett W. A cross-national profile of bullying and victimization among adolescents in 40 countries. *Int J Public Health* 2009; 54(Suppl.2):216-224. **[CrossRef]**
20. Magklara K, Skapinakis P, Gkatsa T, Bellos S, Araya R, Stylianidis S, Mavreas V. Bullying behaviour in schools, socioeconomic position and psychiatric morbidity: a cross-sectional study in late adolescents in Greece. *Child Adolesc Psychiatry Ment Health* 2012; 6:8. **[CrossRef]**
21. Martinelli V, Brondino N, Rossi S, Panigati R, Magnani R, Cappucciati M, Vecchia L, Tinelli S, Emanuele E, Politi P. Bullying behaviours among students in Pavia, Italy: prevalence and association with stress and cannabis use. *Epidemiol Psychiatr Sci* 2011; 20:339-343. **[CrossRef]**
22. Panayiotis S, Anna P, Charalambos T, Chrysostomos L. Prevalence of bullying among Cyprus elementary and high school students. *International Journal of Violence and School* 2010; 11:114-128.
23. Josephson Institute's 2010 Report Card: Bullying and other at-risk behavior. 2010 URL <https://www.deerparkbullyprevention.com/2010/10/27/study-half-of-high-school-students-admit-to-bullying/> Accessed September 7, 2018.
24. Smokowski PR, Cotter KL, Robertson C, Guo S. Demographic, psychological, and school environment correlates of bullying victimization and school hassles in rural youth. *Journal of Criminology* 2013; 1-13. **[CrossRef]**
25. Contreras D, Elacqua G, Martinez M, Miranda A. Income inequality or performance gap? A multilevel study of school violence in 52 countries. *J Adolesc Health* 2015; 57:545-552. **[CrossRef]**
26. Hemphill SA, Tollit M, Herrenkohl TI. Protective factors against the impact of school bullying perpetration and victimization on young adult externalizing and internalizing problems. *J Sch Violence* 2014; 13:125-145. **[CrossRef]**
27. Konishi C, Hymel S, Zumbo BD, Li Z. Do school bullying and student-teacher relationships matter for academic achievement? A multilevel analysis. *Can J Sch Psychol* 2010; 25:19-39. **[CrossRef]**
28. Berger KS. Update on bullying at school: science forgotten. *Dev Rev* 2007; 27:90-126. **[CrossRef]**
29. Mavroveli S, Sanchez-Ruiz MJ. Trait emotional intelligence influences on academic achievement and school behaviour. *Br J Educ Psychol* 2011; 81:112-134. **[CrossRef]**
30. Tural Hesapcioglu S, Ercan F. Traditional and cyberbullying co-occurrence and its relationship to psychiatric symptoms. *Pediatr Int* 2017; 59:16-22. **[CrossRef]**
31. Tural Hesapcioglu S, Yesilova H, Ercan F. Bullying in schools and its relation with depressive symptoms, self-esteem, and suicidal ideation in adolescents. *Anatolian Journal of Psychiatry* 2018; 19:210-216. (Turkish)
32. Tural Hesapcioglu S, Yesilova H. Feelings, thoughts and attitudes of high school students toward school bullying and the bullies. *Anatolian Journal of Psychiatry* 2015; 16:284-293. (Turkish) **[CrossRef]**