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Article in Anadolu Psikiyatri Dergisi · January 2018
DOI: 10.5455/apd.268900

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Bullying in schools and its relation with depressive symptoms, self-esteem, and suicidal ideation in adolescents

Selma TURAL HESAPÇIOĞLU,1 Habibe YEŞİLOVA MERALER,2 Filiz ERCAN3

ABSTRACT

Objective: Bullying, which has negative effects on teaching and learning environment in schools, may be associated with some psychiatric disorders causatively or consequentially. The purpose of this study was to examine the suicidal ideation, depressive symptoms, and self-esteem in high school students with respect to their involvement in the cycle of bullying. Methods: The study was conducted in students of five secondary schools in a city in Turkey, who were selected with simple random sampling method. Peer Bullying Questionnaire, Beck Depression Inventory, Coopersmith Self-Esteem Scale were applied. Results: The data obtained from students in 1173, which were fully completed, were analyzed. Bullying victims, bullies, and people in the bullying cycle have higher depressive symptoms, lower self-esteem, and higher suicide tendencies than non-victims, non-bullies and people not involved in the bullying cycle, respectively. Being bullied increases the suicide ideation risk with an odds ratio of 1.447 and bullying increases the suicide ideation risk with an odds ratio of 1.663. Age, female sex, low self-esteem, victimization, and bullying are factors that increase the score of depressive symptoms. Discussion: The individuals who are not involved in the bullying cycle have a lower rate of depressive symptoms and suicidal ideation, and low self-esteem, which may indicate an impaired mental health status of these students. Therefore, this study reveals that there is a possible relationship between psychiatric disorders, suicidal ideation and bullying behavior. (Anatolian Journal of Psychiatry 2018; 19:210-216)

Keywords: adolescent, bullying, depression, suicidal ideation, self-esteem

ÖZ


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Anatolian Journal of Psychiatry 2018; 19(2):210-216

INTRODUCTION

Peer bullying in schools is a common form of violence among youths. 

Bullying victimization reported approximately 30% of adolescents in 79 countries. While there are many reasons why young people are pushing violence, psychiatric disorders are causally or eventually related to bullying. On the other hand, it is inevitable that some psychiatric symptoms may be seen in the individuals who have exposed to bullying.

Studies about peer bullying in the school showed many mental problems seem to be related to bullying or victimization such as depression, anxiety, psychosomatic complaints, night wetting, stuttering, enuresis, suicide ideas, conduct disorder, bipolar disorder, alcohol and substance use disorders, attention deficit hyperactivity disorder.

One of the most interested psychopathologies in bullying literature is depression. Cross-sectional studies have shown that being a bully or a victim is associated with depression, suicide attempts, and thoughts. Kalliala-Heino, Fröjt, and Marttunen conducted a two-year follow-up study in order to investigate whether depression led to involving in the bullying cycle, or whether involving in the bullying cycle led to depression. They found that both being a bully or a victim were predictors of later depression in boys, and the former depression predicted latter victimization in girls.

Exposure to stress in adolescents has been associated with severe emotional and psychological problems; one well-known of these problems is suicide. The path to suicide, one of the leading causes of death in many countries, begins with the idea of suicide in the mind of the individual, followed by attempts and completed suicide. After the idea of suicide has been spotted on the way to suicide, the researchers have begun to worry more about the idea of suicide.

The purpose of this study is to examine the suicidal thoughts, depressive symptoms, and self-esteem in the students who are in and out of the bullying cycle in high schools. In this study, predictors of suicidal ideation and high depressive symptom severity will be determined and the results could help mental health workers and educators at the point of finding the problem. Due to the nonclinical sampling, it is thought to be able to give an idea about general adolescent populations in or out of the bullying cycle.

METHODS

Participants

The study began with taking the necessary permissions from the Provincial Directorate of National Education. The list of high school students and students in the province center is taken from the Provincial Directorate of National Education. The study universe was 10405 High School Students.
School students in the provincial center. Based on previous studies, the prevalence of peer bullying was accepted as 40%, it was planned to reach 1121 students in the 97% confidence interval, 3% margin of error, and a design effect of 1%. Schools and classes were selected using the simple random sampling method. Questionnaires and scales were applied to 1203 students in the selected classes. However, those who did not respond adequately to questions on all three scales (three or more who were left empty) were not included in this study. Statistical analyses were carried out on the data obtained from 1173 students in the study.

Data collection tools

The Peer Bully Questionnaire: Developed by Pişkin, the questionnaire can be applied to the fourth grade and above. This survey divides the students into four groups: bully, the victim, bully-victim and not involved in bullying cycle. At the beginning of the questionnaire definitions of bullies and bullying are explained to the students. After class, age and sex related questions the questionnaire consists of three parts including questions about victimization, bullying, and bullying in the school.

Beck Depression Inventory (BDI): This scale, developed by Beck, is a 21-item self-report scale that evaluates depressive symptoms quantitatively. The score of each question ranges from 0 to 4, and the total score of the scale can range from 0 to 63. Twenty-one and above points indicate the presence of moderate or severe depression. The validity and reliability studies of university students in our country were carried out by Hisli. The Cronbach’s alpha coefficient of the scale for this study is 0.867.

Evaluation of the Suicide Idea: Taking 1, 2 or 3 points from the question about suicide in BDI was considered as the existence of suicide ideation.

Coopersmith Self-Esteem Inventory (CSE): It is a self-assessment scale consisting of twenty-five items with two options, developed by Coopersmith. The lowest score that can be taken from this scale is ‘0’, the highest score is ‘100’, and the higher the scores, the higher the self-esteem. The validity and reliability study in Turkey was carried out by Turan and Tufan. The Cronbach’s alpha coefficient of the scale for this study is 0.779.

Statistical evaluation

Statistical evaluations were performed using the IBM SPSS Statistics 20.0 package program. The level of significance in the evaluations was accepted as p<0.05. Comparisons of the ratios of the two groups were made using the z test. When comparing the mean values of the two groups, it was first tested by the Levene’s test whether the variances of the values were homogeneous and if it is suitable, Student t test was performed. Seven students’ information on suicide ideation are missing Data of 1166 students were taken into account when assessing suicide. Logistic regression analysis was conducted to determine predictors of suicidal ideation. Variables are included in the model with forward selection technique. Linear regression analysis was applied to examine the variables that predict the depressive symptom score.

RESULTS

Of the 1173 students, 23.4% were victims of bullying, 28.5% were bullies and 13.4% were both bully and victims. The mean BDI score was 15.51±9.90 and the median score was 14.00. There was a suicide thought in the 30.4% of the students’ mind.

The relation of bullying and depression

To investigate the relationship between depression and victimization, the students were divided into two groups: those who were bullied and those who did not. Student t-test used to compare the mean BDI scores in two groups. It was found that there was a significant difference in terms of BDI scores (p<0.001, degrees of freedom (df)=399) (Table 1).

<table>
<thead>
<tr>
<th>Bullying victimization</th>
<th>Bullying</th>
<th>Involving in the bullying cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Victims</td>
<td>Non-victims</td>
<td>p</td>
</tr>
<tr>
<td>BDI score</td>
<td>18.8±10.9</td>
<td>14.5±9.3</td>
</tr>
<tr>
<td>Suicidal thought</td>
<td>%46.5</td>
<td>%25.6</td>
</tr>
<tr>
<td>Self-esteem</td>
<td>55.2±18.7</td>
<td>63.4±18.2</td>
</tr>
</tbody>
</table>

BDI: Beck Depression Inventory

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The mean BDI scores of the bullies and non-bully students were compared with the Student t-test, and there was a significant difference between the groups (p<0.001, df=559) (Table 1). There was a statistically significant difference in terms of mean BDI scores between the ones who entered the bullying cycle and those who did not (p<0.001; df=822) (Table 1).

Variables that predict depression score

Linear Regression Analysis was applied to determine the variables that predict the increase in BDI score. Age, female gender, low self-esteem, exposure to bullying and bullying others were factors that increase the BDI score (Table 2).

**Table 2. The predictors of Beck Depression Inventory score**

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>CI (95%)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td>-0.682</td>
<td>(-1.403)-(-0.039)</td>
<td>0.064</td>
</tr>
<tr>
<td>Age</td>
<td>1.221</td>
<td>0.665-1.777</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Gender</td>
<td>-2.210</td>
<td>(-3.202)-(-1.219)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Bullying victimization</td>
<td>1.515</td>
<td>0.364-2.665</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Bullying</td>
<td>1.209</td>
<td>0.146-2.272</td>
<td>0.026</td>
</tr>
<tr>
<td>CSI total score</td>
<td>-0.294</td>
<td>(-0.318)-(-0.269)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

CSI: Coopersmith Self Esteem Inventory; CI: Confidence Interval

**Bullying and suicide thought**

For the purpose of determining the relationship between suicide thoughts and victimization, the students were divided into two groups: those who were bullied and those who did not. Student ratios with suicidal ideation between the two groups were compared with z-test and statistically, a significant difference was observed (z=6.55, p<0.001).

When we look at the relationship between bullying and suicidal ideation, it is seen that there is a statistically significant difference between the groups in terms of students with suicidal thoughts (z=5.82, p<0.001) (Table 3).

**Table 3. Predictive factors of suicidal thoughts**

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>Exp(B)</th>
<th>CI (95%)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td>-0.174</td>
<td>0.840</td>
<td>0.72-0.98</td>
<td>0.027</td>
</tr>
<tr>
<td>Bullying victimization</td>
<td>0.369</td>
<td>1.447</td>
<td>1.00-2.08</td>
<td>0.046</td>
</tr>
<tr>
<td>Bullying</td>
<td>0.508</td>
<td>1.663</td>
<td>1.18-2.33</td>
<td>0.003</td>
</tr>
<tr>
<td>BDI Total Score</td>
<td>0.117</td>
<td>1.124</td>
<td>1.10-1.14</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>CSE Total Score</td>
<td>-0.021</td>
<td>0.979</td>
<td>0.97-0.99</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

CI: Confidence Interval; BDI: Beck Depression Inventory; CSE: Coopersmith Self-Esteem Inventory

When the relationship between involving in the bullying cycle and suicide thought was examined, the ratio of students with suicidal thoughts between the students in and out of the bullying cycle was compared by z-test and it was found that there was a statistically significant difference between them (z=7.32, p<0.001).

**Factors affecting suicide ideation**

A logistic regression analysis was conducted to investigate the predictors of suicidal ideation. Class, age, gender, victimization, bullying, CSE score, BDI score were independent variables in the model, and the dependent variable was having a suicide ideation. While there was no significant difference with age and gender variables, statistical significance was observed for other variables (Table 3). Accordingly, each unit increase in the class
reduces the risk of having a suicide ideation by 16% (odds ratio (OR)=0.840). Each unit increase in the BDI score increases the risk of having suicidal ideation by 12.4% (OR=1.124). Each unit increase in the self-esteem score reduces the risk of having a suicidal ideation by 2.1% (OR=0.979). Being a bully increases the risk by 66.3 percent (OR=1.663) while victimization increases the risk by 45% (OR=1.447).

**Bullying and self-esteem**

Student t-test was used to examine the relationship between victimization and the mean (CSE) scores. It was seen that there was a significant difference in terms of self-esteem scores among those who was victimized and was not (t=6.54, df=1171, p<0.001) (Table 1). There was a significant difference between those who bullied others and those who did not, in terms of CSE scores (t=3.98, df=652.57, p=0.001) (Table 1). There was a significant difference in the mean scores of CSE between those who involved in the bullying cycle and those who did not (t=5.74, df=1171, p<0.001) (Table 1).

**DISCUSSION**

Adults can see bullying between peers sometimes as ‘child play’ or ‘joking’ and cannot imagine that traumatic events that could lead to a catastrophe as a result of bullying. In this study, the relation between involving in the bullying cycle and suicidal thoughts, depression and self-esteem scores were examined. The predictors of suicidal thoughts and BDI scores were also examined in this study.

The first finding of our study is that depression symptom scores of victims, bullies and the students in bullying cycle are higher than respectively non-victims, non-bullies and the students that did not involve in bullying cycle. While Çetinkaya et al.27 found that depressive scores were higher in subjects who were exposed to bullying in their study, Kaltiala-Heino et al. found a higher prevalence of depression in both bullies and victims.17 However, in a study from Finland, the prevalence of depression was higher in boys who frequently bully others, but it was lower in bullying victims.15 It is suggested that the bully-victims have the higher risk of deterioration and they are the most damaged group.15 Linear regression analysis applied in our research also showed that the severity of depressive symptoms in high school students increased with bullying and victimization. Therefore, in adolescents with depressive symptoms, it is necessary to ask about the experience of peer bullying in school.

The second finding of our study is that the self-esteem of bullying victims, bullies, and the bully-victims are lower than respectively non-victims, non-bullies and the students that did not involve in the bullying cycle. In the literature, the victims of bullying are described as anxious, not confident and, not initiating children.34 Non-attendance to school and some chronic diseases are not rare in students who are bullied.35 The academic achievement of students may fall as a consequence of bullying, and they may feel the effects of bullying even during adulthood.35,36

Our third finding is that victims, bullies, and bully-victims have more suicidal thoughts than respectively non-victims, non-bullies and the students that did not involve in bullying cycle. In an eleven-month follow-up study, both bullies and victims were at a higher risk of suicide and self-harm behaviors.37 When the predictors of suicidal ideation are examined in our study, the increase in class and an increase in self-esteem score decreases the risk of suicidal ideation; increase in BDI score, victimization and bullying are increasing the risk of suicide ideation.

The remarkable finding in our study is that bullies also have higher depressive symptom scores, lower self-esteem and more suicidal thoughts like the bullying victims. The bullies are enjoying to torment and to harm the victims. These people tend to not to obey school rules. Bullying can be a sign of impaired mental health. Interpreting the bullying behavior and making the necessary intervention in time can lead to the evaluation of the mental health of the offender while at the same time can prevent the emergence of new victims38, These findings support the studies that externalizing behaviors may be related to depression and suicidal behavior.22,23

Findings in this study suggest that the aggression of young people towards each other may be related to serious psychiatric disorders and that if necessary intervention is not done on time and correctly, the individual may go on to end his/her life. In fact, it seems that both those who are bullied and those who are bullies need closer attention and follow-up.

In conclusion, it appears that one component of the prevention and intervention of suicide,39 one of the leading causes of death, is preventing bullying in school.38 All these findings point to the need for more effective precautions to prevent peer violence in school.
Limitations

The sampling of this research is sufficient and the data collection tools that are used are reliable and valid scales. However, the self-report design of the data collection tools is a limitation of this study.

Acknowledgment

Authors thank Mustafa Kemal Tural for statistical analyses and to Semra Kızılkın for her help in entering the data.

Authors’ contributions: S.T.H.: study design, literature review, data collect and enter, analysis interpret, writing the draft and manuscript review; H.Y.M.: study design, literature review, data collect and enter, analysis interpret, manuscript review; F.E.: literature review, analysis interpret, manuscript review.

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