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Original Article

Peer Bullying in the Preadolescent Stage: Frequency and Types of Bullying and the Affecting Factors

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ABSTRACT

Aim: This study was conducted to determine the types, frequencies and the affecting factors of peer bullying among 6th, 7th, and 8th grade students of secondary schools in a city center in Cappadocia.

Materials and Methods: A total of 3.059 students were attending secondary schools in a city center and this study sample consists of 1.288 students. Prior to the study, approval from the ethical council and institute, as well as written consent from students and their families were obtained. Data were collected via individual information forms and the Traditional Peer Bullying scale by the researcher through face-to-face interviews and the data obtained were evaluated by chi-square, single, and multiple logistic regression analysis.

Results: It was determined that the mean age of the students was 12.81±0.93 years, of them 51.7% were girls, 12.0% did bullying, 15.9% were exposed to bullying, 52.1% were exposed to verbal bullying, and 13.4% were exposed to physical bullying. Multiple logistic regression revealed that the most important factors affecting the bullying of other students were family structure, attitude towards school, and gender; those factors affecting exposure to bullying were attitude toward school, body mass index, and economical status. As the age of the students increased by one year, the likelihood of bullying increased by 1.2 times. Boys were bullied 1.5 times more than girls, and the students of separated parents were bullied 2.7 times more than those whose parents stayed together ($p<0.05$).

Conclusion: As bullying within schools is an important problem, it may be advisable to take into account the factors affecting bullying (age, gender, economic situation, family structure, attitude toward school, etc.) when conducting studies to prevent bullying in schools.

Keywords: Peer bullying, preadolescent stage, school nursing, school health

Introduction

Bullying, which is an important part of violence in school, is a common problem all over the world (1-6). School bullying is defined as the disruptive behavior of one or more students toward another student or other students with regularity and purpose and without any provocation (7). Bullying is classified into physical (hitting, pushing, spitting), verbal (swearing, assigning nicknames, insulting), relational/social aggression (e.g. social exclusion, rumour spreading, ostracizing and exclusion from games), and cyber bullying (bringing discomfort to others through the use of cell phones and the internet, humiliation) (8-10).

Studies conducted in various countries revealed a bullying prevalence of 8%-75% in schools (5,11-17). In a

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meta-analysis on bullying prevalence with an overall sample of 335.519 youth (12-18 years), the authors found a mean prevalence of 35% for traditional bullying (16). Of those students who reported being bullied, 13% were made fun of, called names, or insulted; 12% were the subject of rumors; 5% were pushed, shoved, tripped, or spat on; and 5% were excluded from activities on purpose (17). As the result of the studies in Turkey, it has been determined that the bullying prevalence was between 30-75% (18-23).

Bullying can affect the psycho-social health of school-aged children, and this effect may continue throughout the child's life (5,6,14,24-26). Children who are exposed to bullying report problems such as emotional trauma, a negative impact on school life, syndromes such as depression and anxiety, anxiety spectrum disorders such as social phobia and post-traumatic stress disorder, behaviors such as psychotic symptoms and somatic symptoms (e.g., stomach ache, headaches, dizziness, and back pain), sleep disorders, and physical damage in the short term (16,26-30).

When considering the adverse effects of bullying on the personality of students in the long term, low self-esteem, problems in interpersonal relations, and an increase in depression levels have been reported (24-27,31). Bullying exerts negative effects not only on those who are bullied but also on those who bully (5,31,32). The school performance of bullies and their success in their future lives has been determined to be low (6,32). The ability to establish and improve positive relationships with others in their adult years was negatively influenced by chronic bullying, and bullies tended to collect more criminal records than their non-bully counterparts (32,33).

Bullying is clearly an important problem based on a number of studies (1,2,5,11,13,14,16,25,34-36), and the need for preventive programs to be developed quickly has been emphasized (37-39). This problem, which is seen especially among early adolescents (34,36), is an issue that health professionals, such as school nurses, psychologists, psychology consultants, and physicians, and families should address (1,28,40). Besides collaborating with other disciplines, school nurses also play an important role in preventing bullying (1,4,6,41) through primary, secondary, and tertiary precautions (14). School nurses are health professionals who prevent the occurrence of bullying events and provide coordination of care in the process of occurrence, evaluate the effects of bullying on the victim and the bully and also plan and maintain their care (4,41).

It is important to know individual, familial and environmental risk factors related to bullying, to organize training programs on bullying and to ensure participation of students, families, teachers and school staff in these programs (6). Adolescents' tendency to violence; age, gender, socio-economic status, family structure and characteristics have an important role (4). Determining the characteristics of the bullying situation is essential in preventing it.

Therefore, this study was conducted to determine the types and frequencies of peer bullying, as well as the factors that affect bullying, among students in 6th, 7th, and 8th grade classes at secondary schools in a city center of Cappadocia.

Materials and Methods

This study was conducted in a cross-sectional design. Literature showed that bullying is mostly observed in 6th, 7th and 8th grade students of primary school (40,42). There were a total of 3.059 students in the 6th, 7th, and 8th grade classes of 11 secondary schools in a city center of Cappadocia. A required study sample of 1.200 was calculated by considering a frequency of 40% (18) with 95% probability (alpha=0.05) and 80% power; thus, 1.288 students were recruited to participate in this work. The students to be sampled were rated according to schools, grades and gender. According to this, a random batch was determined from the 6th, 7th and 8th grades of each school. According to the class list in the selected batch, the students were numbered by using a random numbers table. A questionnaire was applied to selected students in a class. The sample of students representing the school and the number of classes are given in Table I.

Ethics

The study was approved by the Ethics Committee of Nevşehir Hacı Bektaş Veli University (approval number: 2014/01.01). Written consent from the Provincial Directorate for National Education, and written and verbal consent from the students and their families were obtained. The researchers made necessary explanations before the study.

Data Collection

The researchers made all necessary explanations before the study. Data were collected using an individual information form, which includes the socio-demographic characteristics of the students and their families, and the Traditional Peer Bullying scale (TPBS) via face-to-face meetings. The duration of the survey application was determined as one lesson time (40 minimum) for each

class by the researchers. The students, teachers and school staff were provided with counselling on bullying.

Measures

Individual Information form

The individual information form was developed from literature sources and included 26 questions on the socio-demographic characteristics pertaining to the students such as school studied at, age, gender, grade, parental education status, socio-economic status, number of siblings, attitude toward school and their knowledge about bullying and exposure to bullying. In this study, students' attitude toward school was determined using the closed-ended question "Do you like school?". Income status of students was determined using the question "How do you see the economic situation of your family?".

Traditional Peer Bullying scale

The TPBS that was modified by Burnukara and Uçanok (19) is composed of two parallel forms that aim to determine the prevalence of both exposure to peer bullying and determining the kinds of bullying attitudes of adolescents in the school environment over the prior 6 months. This scale is composed of 31 items evaluated via a 4-point Likert scale. In each item, "a" measures the victim experience and "b" measures the bully experience of adolescents. The scale includes six sub-dimensions of verbal, relational, physical, attack with personal objects, social exclusion, and threats/intimidation.

In this study, students were divided in three groups, as bully, victim and bully-victim, according to their scores from the TPBS. Adolescents with scores above the standard deviation of mean peer bullying practice scores (scores received from the bully form) were bullies, those who incurred scores above the standard deviation of mean peer bullying exposure scores (scores from victim form) were victims, and those with scores above the standard deviation of means of both peer bullying practice and peer bullying exposure scores (scores received from both bully and victim forms) were bully/victims. In the study of Burnukara and Uçanok (19), Cronbach's alpha of victim form reached 0.90 but totalled 0.91 for the bully form in the TPBS.

In this study, Cronbach's alpha was found to be 0.92 for the victim form and 0.89 for the bully form.

Statistical Analysis

Independent variables of the study were as follows; age, gender, economic status, body mass index (BMI) of students and socio-demographic characteristics such as age, gender, occupation and education status of parents. The dependent variables of the study are as follows; the scores obtained from the TPBS. Chi-square, single, and multiple logistic regression analyses were applied, and $p<0.05$ was accepted to indicate a statistically significant difference.

In this study, BMI was calculated [body weight (kg)/height squared (m^2)] after researchers measured the weight and height of the adolescents. The growth curves developed by Neyzi et al. (43) for Turkish children were used in the assessment of BMI. BMI in the 5-14.9th percentile was evaluated as slim, BMI in the 15-84.9th percentile was considered as normal weight, the 85-94.9th percentile was

Table I. Number of students representing schools and classes

School Name	6th grade		7th grade		8th grade		Total
	Male	Female	Male	Female	Male	Female	
Toki 125. Yıl Ortaokulu	24	23	21	23	16	10	117
Mihriban Emin Günel Ortaokulu	23	26	23	26	26	25	149
75. Yıl Ortaokulu	27	40	30	30	35	23	185
Damat İbrahim Paşa Ortaokulu	38	47	35	39	28	28	215
23 Nisan Ortaokulu	11	10	11	12	10	16	70
Gazi Ortaokulu	10	4	3	9	7	9	42
H. Lütfü Pamukcu Ortaokulu	14	25	18	24	22	29	132
İstiklal Ortaokulu	23	22	23	23	28	23	142
M. Gülen Ortaokulu	7	11	6	16	10	13	63
Atatürk Ortaokulu	23	15	11	13	13	12	87
Cumhuriyet Ortaokulu	13	13	20	10	14	16	86
Total	213	236	201	225	208	204	1.288

accepted as overweight, and those with BMI over the 95th percentile were considered as obese.

Results

Among the participants, 34.9% were in the 6th grade class, 37.6% were 13 years old, 52.2% were underweight, and 57.5% had a high socio-economic status. About 92% of the students lived with their parents, 87.3% liked school, and 96.2% did not participate in absenteeism without reason (Table II).

Among the participants, 12% were bullies and 15.9% were exposed to bullying (victims). When they experienced bullying, 23.1% of the students stayed calm and ignored their bully, 16.9% warned their bully, 16.8% reported the incident to the school management and their teachers, and 12.1% responded in the same manner (Table III).

According to the subscales, 52.1% of the students had been bullied verbally while 13.4% had been bullied physically (Table III).

Boys, older students, and those who have parents living separately were more bullied than other students ($p<0.05$), and students who were overweight and had a low socio-economic status tended to be exposed to more bullying than their counterparts ($p<0.05$) (Table IV).

The most important factors affecting whether students bullied their peers were family structure [odds ratio (OR) 2.67, 95% GA 1.47-4.83), attitude toward school (OR 1.86, 95% GA 1.19-2.13), gender (OR 1.47, 95% GA 1.02-2.09), and age (OR 1.21, 95% GA 1.00-1.47); ($p<0.05$), and the differences observed were statistically significant. As the age of the students increased by one unit (year), the frequency of bullying situations increased by 1.2 times ($p=0.049$). Boys were bullied 1.5 times more than girls ($p=0.039$), and students who did not like school were bullied 1.9 times more than those who did ($p=0.007$). Students whose parents had separated were bullied 2.7 times more than those whose mothers and fathers were together ($p=0.001$) (Table V).

The most important factors affecting exposure to bullying were attitude toward school (OR 2.80, 95% GA 1.90-4.13), BMI (OR 2.29, 95% GA 1.27-4.16), economic status (OR 1.51, 95% GA 1.09-2.09), and age (OR -0.74, 95% GA 0.63-0.88) ($p<0.05$), and the differences observed were statistically significant. As the age of the students decreased by one unit (year), the risk of bullying increased by 0.7 times ($p<0.001$), and students who were overweight were exposed to bullying 2.3 times more than those who were not ($p=0.006$). Students who did not like school were exposed to bullying 2.8 times more than those who did ($p<0.001$), and students with a low socio-economic background were exposed to bullying 2.5 times more than those with a high socio-economic status ($p=0.004$) (Table V).

The threats/intimidation behaviors of students were mostly affected by gender (OR 2.71, 95% GA 1.79-4.09), and attitude toward school (OR 1.98, 95% GA 1.23-3.19) ($p<0.05$). Also, the most important factor affecting verbal

Table II. The introductive characteristics of the students (n=1.288)

Introductive Characteristics	n	%
Class level		
6th class	449	34.9
7th class	426	33.1
8th class	413	32.0
Gender		
Girl	667	51.8
Boy	621	48.2
Age		
11 years	100	7.8
12 years	379	29.4
13 years	484	37.6
14- 5 years	325	25.2
BMI		
Low	672	52.2
Normal weight	551	42.8
Overweight and obese	65	5.0
Economical level		
Well	741	57.5
Moderate	488	37.9
Low	59	4.6
Family situation		
Parents are together	1.186	92.0
Parents are separated	73	5.7
Mother or father died	29	2.3
Attitude toward school		
Like	1.125	87.3
Dislike	163	12.7
Absenteeism		
Occurs	49	3.8
Does not occur	1.239	96.2

BMI: Body mass index

bullying was attitude toward school (OR 1.64, 95% GA 1.17-2.30) (p<0.05). The most important factors affecting physical bullying were gender (OR 2.39, 95% GA 1.70-3.36) and attitude toward school (OR 2.01, 95% GA 1.33-3.04) (p<0.05). Absenteeism, which was the most important factor in relational bullying, was found to be statistically significant (OR -0.47, 95% GA 0.22-1.00) (p<0.05). The most important factors affecting attacks with personal objects were gender (OR 2.74, 95% GA 1.61-4.67) and absenteeism (OR -0.41, 95% GA 0.16-1.00) (p<0.05). Attitude toward school was found to be the most important factor influencing social exclusion [(OR 1.75, 95% GA 1.12-(-2.72)] (p<0.05) (Table VI).

Table III. Situations of students for bullying and exposure to bullying and their reactions when they experience bullying behaviours according to the scale points

TPBS means of students	**n**	**%**
Situation of bullying		
Bullies others	154	12.0
Does not bully others	1.134	88.0
Situation of exposure to bullying		
Exposed to bullying	205	15.9
Not exposed to bullying	1.083	84.1
Bullying sub-dimensions**		
Threats/Intimidation	118	9.2
Physical bullying	173	13.4
Verbal bullying	670	52.1
Relational bullying	128	9.9
Attacking with personal items	69	5.4
Social exclusion	153	11.9
Given Reactions*		
Staying calm, not minding, not caring	297	23.1
Telling to the teacher	217	16.8
Warning	218	16.9
Doing the same	156	12.1
Beating	92	7.1
Getting sad/crying	87	6.8
Being angry	26	2.0
Asking the reason	21	1.6
Other***	71	5.6
No answer	208	16.2

*More than one answer was taken. Percentage was calculated on the basis of 'n', **In bullying sub-dimensions; only the numbers and percentages of bullying are given, ***Other (Telling the family, break up, solacement, protecting the victim, finding the truth, laughing, apologizing, not looking at his/her face)
TPBS: Traditional Peer Bullying scale

Boys were exposed to threats/intimidation behaviors 2.7 times more, physical bullying behaviors 2.4 times more, and attacks with personal objects 2.7 times more than girls (p<0.001). Students who did not like going to school showed threats/intimidation behaviors 2 times more (p=0.005), verbal bullying 1.6 times more (p=0.004), physical bullying 2 times more (p=0.001), and social exclusion 1.8 more (p=0.013) than students who liked going to school (Table VI). In the victim form; girls were exposed to verbal bullying 0.7 times more, relational bullying 0.6 times more, and social exclusion 0.7 times more than boys; by contrast, boys were exposed to threats/intimidation 1.6 times more than girls (p<0.05). Students with a higher BMI were exposed to verbal bullying 2 times and social exclusion 2.5 times more than those with a lower BMI (p<0.05). Students who did not like school were exposed to threats/intimidation behaviors 2 times more, verbal bullying 1.9 times more, physical bullying 2 times more, relational bullying 3 times more, attacks with, personal objects 2.8 times more, and social exclusion 1.7 more than those who liked school (p<0.05) (Table VI).

Students with mothers who graduated from secondary or high school were exposed to intimidation and threatening behaviors about 0.6 times less than those whose mothers graduated from primary school only (p<0.05). Students with a low socio-economic status were exposed to threatening and intimidating behaviors 2.1 times more, verbal bullying 2.1 times more, and social exclusion 2.2 times more than those with a high socio-economic status (p<0.05) (Table VI).

Discussion

The findings of the study conducted in order to determine the types and frequencies of peer bullying, as well as the factors that affect bullying, among students in 6th, 7th, and 8th grade classes at secondary schools are discussed below.

Some studies have found bully rates of between 2% and 18%, victim rates between 4.8% and 26%, and bully-victim rates between 2% and 24% (7,18,19,35,44,45). In this study, 12% of the students bullied, 15.9% were exposed to bullying (victims), and 15.1% were bully/victims; thus, bullying in schools should be considered an important problem (Table III). Hesapçıoğlu et al. (20) found that 23.4% of students were victims of bullying, 28.5% were bullies and 13.4% were both bullies and victims.

According to subdimensions, it was found that students performed mostly verbal bullying, other studies

show that students are exposed to mostly verbal bullying (18,26,28,35,44,46,47). Students exposed to bullying behaviors reported trying to stay calm, ignoring their bully (23.1%), warning their bully (16.9%), talking to their school principal and teachers (16.8%), and bullying back (12.1%) in response to being bullied (Table III). In other studies, participants stated that when they were exposed to bullying, they reacted by thinking of this behavior as a

Table IV. The students' bullying and exposure to bullying according to their introductive characteristics

Introductive characteristics	Bully		Non-bully		Exposed to bullying		Not exposed to bullying	
	n	%	n	%	n	%	n	%
Gender								
Girl	60	9.0	607	91.0	111	16.6	556	83.4
Boy	81	13.0	540	87.0	87	14.0	534	86.0
	χ^2=5.405 p=0.020				χ^2=1.712 p=0.191			
Age								
11 years	8	8.0	92	92.0	19	19.0	81	81.0
12 years	41	10.8	338	89.2	77	20.3	302	79.7
13 years	46	9.5	438	90.5	65	13.4	419	86.6
14 years	37	12.2	266	87.8	62	10.6	271	89.4
15 years	9	40.9	13	59.1	5	22.7	17	77.3
	χ^2=22.687 p<0.001				χ^2=15.843 p=0.003			
BMI								
Low	66	9.8	606	90.2	104	15.5	568	84.5
Normal weight	66	12.0	485	88.0	75	13.6	476	86.4
Overweight	9	13.8	56	86.2	19	29.2	46	70.8
	χ^2= 2.035 p=0.362				χ^2=10.914 p=0.004			
Economical level								
Well	78	10.5	663	89.5	93	12.6	648	87.4
Moderate	56	11.5	432	88.5	88	18.0	400	82.0
Low	7	11.9	52	88.1	17	28.8	42	71.2
	χ^2=3.369 p=0.498				χ^2=15.384 p<0.001			
Attitude to school								
Like	112	10.0	1013	90.0	150	13.3	975	86.7
Dislike	29	17.8	134	82.2	48	29.4	115	70.6
	χ^2=8.967 p=0.003				χ^2=28.418 p<0.001			
Family situation								
Parents are together	122	10.3	1064	89.7	184	15.5	1002	84.5
Parents are seperated	19	18.6	83	81.4	14	13.7	88	86.3
	χ^2=6.702 p=0.010				χ^2=0.231 p=0.631			
Absenteeism								
Occurs	8	16.3	41	83.7	11	22.4	38	77.6
Does not occur	133	10.7	1106	89.3	187	15.1	1052	
	χ^2=1.512 p=0.219				χ^2=1.961 p=0.161			

BMI: Body mass index

joke, by not minding the mockings, by responding verbally or physically or by avoiding, by not going to school, by sharing this with their closest friends, families, teachers, and school management (46,47). Verbal bullying is very common in schools and society because verbal bullying is not typically considered a type of bullying which may cause serious results and sometimes is supported by individual's environment and family.

There are factors such as age and gender in bullying. These changes in bullying rates can be thought to be caused by differences in demographic and social risk factors (such as age, gender, income status, family structure, family attitude, societal values, ethos) (8). In one study, the most frequently reported reason for bullying was physical weakness, but also being fat and being poor were among the other causes (48). In this study, boys, older students, and those who have parents living separately were more bullied than other students ($p<0.05$), and students who were overweight and had a low socio-economic status tended to be exposed to more bullying than their counterparts ($p<0.05$) (Table IV). These findings are similar to other studies in the literature (18,19,22,23,32,34,37,39).

Table V. The students' bullying and exposure to bullying according to their introductive characteristics

Introductive characteristics	Multiple binary logistic regression analyses (model: backward wald)	
	Bullied	Exposed to bullying
	OR (95% CI)	OR (95% CI)
Age (years)	1.21 (1.00-1.47) p=0.049	-0.74 (0.63-0.88) p<0.001
Gender		
Girl	1	-
Boy	1.47 (1.02-2.09) p=0.039	-
BMI		
Weak 1	-	1
Normal	-	-0.94 (0.67-1.31) p= 0.713
Overweight	-	2.29 (1.27-4.16) p=0.006
Like to school		
Like	1	1
Not like	1.86 (1.19-2.13) p=0.007	2.80 (1.90-4.13) p<0.001
Economical level		
Well 1	-	1
Moderate	-	1.51 (1.09-2.09) p=0.013
Low	-	2.53 (1.35-4.75) p=0.004
Familial situation		
Parents are together 1	1	-
Parents are separated	2.67 (1.47-4.83) p=0.001	-

OR: Odds ratio, CI: Confidence interval, BMI: Body mass index

The present study found that boys were more likely to be victims of bullying than girls ($p<0.05$) (Table IV,V). In various studies on the relationship between bullying and gender, boys were observed to be bullied and exposed to bullying to a greater extent than girls (26,39,44).

In this study, boys tended to engage in threats/intimidation, physical bullying, and attacking with personal objects more often than girls. By comparison, girls were more exposed to verbal and relational bullying and social exclusion than boys (Table VI). Similar studies revealed that boys were physically bullied more than girls and that boys were at higher risk of bullying than girls (22,26,49). Verbal bullying through mocking, relational attacks, and social exclusion were observed more frequently among girls than boys (22,38,49). The results of this study are similar to those in the literature. Thus, in school, boys may be at higher risk of physical bullying than girls and the latter may be at higher risk of verbal bullying than the former.

In this study, age was determined as a factor affecting bullying and exposure to bullying (Table IV). As the age of students increased by one unit (year), the frequency of bullying situations increased (Table V). While one previous study demonstrated that negative behaviors related to bullying decreased with increasing age (22), two other studies revealed that bullying increased with age, similar to the results of the present work (24). Also, in a study investigating bullying among classes, it was found that the students who were in the 8th class bullied more than the other students in the 6th and 7th grade classes; by contrast, students in the 6th grade class were more exposed to bullying than students in the 7th and 8th grade classes (46). Therefore, teaching students efficient problem-solving methods and empathy prior to the age when the risk of bullying increases could contribute to decreasing future bullying behaviors.

Students who were overweight were more exposed to bullying than those who were not ($p=0.006$) (Table IV,V); these students reported verbal bullying and social exclusion ($p<0.05$) (Table VI). A previous study indicated

Table VI. The mean scores from subdimensions of bully and victim scales of the students according to their introductive characteristics

Introductive characteristics	Multiple binary logistic regression analyses (model: backward wald)					
	Threats/ intimidation	**Verbal bullying**	**Physical bullying**	**Relational bullying**	**Attack with personal objects**	**Social exclusion**
	OR (95% CI)	**OR (95% CI)**	**OR (95% CI)**	**OR (95% CI)**	**OR (95% CI)**	**OR (95% CI)**
Bully form gender (1)						
Girl	1	-	1	-	1	-
Boy	2.71 (1.79-4.09) p<0.001	-	2.39 (1.70-3.36) p<0.001	-	2.74 (1.61-4.67) p<0.001	-
Absenteeism						
Occurs	-	-	-	-	-	-
Does not occur	-	-	-	1 -0.47 (0.22-1.00) p=0.049	1 -0.41 (0.16-1.00) p=0.049	-
Attitude to school (1)						
Like	1	1	1	-	-	1
Dislike	1.98 (1.23-3.19) p=0.005	1.64 (1.17-2.30) p=0.004	2.01 (1.33-3.04) p=0.001	-	-	1.75 (1.12-2.72) p=0.013
Victim form						
Variables	Threats/ intimidation	Verbal bullying	Physical bullying	Relational bullying	Attack with personal objects	Social exclusion
	OR (95% CI)	**OR (95% CI)**	**OR (95% CI)**	**OR (95% CI)**	**OR (95% CI)**	**OR (95% CI)**
Age (years)	-	-	0.80 (0.69-0.94) p=0.007	-0.83 (0.72-0.97) p=0.018	-	-0.78 (0.67-0.92) p=0.003
Gender (1)						
Girl	1	1	-	1		1
Boy	1.60 (1.18-2.17) p=0.003	-0.72 (0.54-0.95) p=0.021		-0.58 (0.44-0.78) p<0.001	-	-0.68 (0.50-0.92) p=0.012
BMI (1)						
Low 1	-	1	-	-	-	1
Normal	-	1.40 (1.04-1.86) p=0.024	-	-	-	-0.98 (0.72-1.35) p=0.910
Overweight	-	2.10 (1.16-3.81) p=0.015	-	-	-	2.48 (1.40-4.40) p=0.002
Attitude towards school (1)						
Like	1	1	1	1	1	1
Dislike	2.00 (1.35-2.96) p=0.001	1.86 (1.28-2.71) p=0.001	1.98 (1.34-2.94) p=0.001	2.99 (2.08-4.31) p<0.001	2.77 (1.86-4.13) p<0.001	1.70 (1.13-2.53) p=0.011
Mother education (1)						
Primary school 1	1	-	-	-	-	-
Secondary-high school	-0.60(0.43-0.83) p=0.002	-	-	-	-	-
University	-0.85(0.48-1.51) p=0.570	-	-	-	-	-

Table VI. Continued

Introductive characteristics	Multiple binary logistic regression analyses (model: backward wald)					
	Threats/ intimidation	Verbal bullying	Physical bullying	Relational bullying	Attack with personal objects	Social exclusion
	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Economical level (1)						
Well 1	1	1	-	-	1	1
Moderate	1.58 (1.15-2.19) p=0.005	1.40 (1.04-1.86) p=0.024	-	-	1.50 (1.06-2.11) p=0.021	1.63 (1.20-2.21) p=0.002
Low	2.12 (1.12-4.01) p=0.020	2.10 (1.16-3.81) p=0.015	-	-	1.78 (0.88-3.62) p=0.109	2.19 (1.17-4.11) p=0.014

OR: Odds ratio, CI: Confidence interval, BMI: Body mass index

that obese or overweight students were more exposed to bullying than those who were not overweight (p<0.05) (49-51).

In this study, students with a low economic status were more exposed to bullying than those with higher economic backgrounds (p=0.003) (Table IV,V). Students with a low economic status were mainly exposed to threats/intimidation, verbal bullying, and social exclusion (Table VI). In a previous study, a positive relationship between exposure to bullying situations and a low socio-economic status and a negative relationship between bullying and a high socio-economic status were found (52). Another study revealed that individuals with economic trouble in the family reported higher rates of bullying (p<0.01) and exposure to bullying (p<0.001) than those without (53). Thus, according to the results of several studies, children with a low socio-economic status are at higher risk of being bulled than those with a higher socio-economic status. The school counselor, school nurse, and teachers should consider this situation.

In this study, students who did not like school bullied more and were exposed to more bullying than those who liked school (Tables IV,V,VI). Similar to our results, those students who did not like the school bullied and were exposed to bullying (p<0.05) more than the others in Ergün's (53) work. A strong positive relationship between liking school and being a victim was observed, attendance to school among bully students was less and they had higher absenteeism mostly. Not liking school and high levels of absenteeism can thus be considered as risk factors of being bullied.

Besides personal reasons, some important reasons to explain violent events at school include a low socio-economic status and a separated family unit (32,49,54). In a systematic review, children without a traditional family structure were found to be at a higher risk of bullying compared with children with such a structure (55). In our study, similarly to the literature, students whose father and mother were separated were bullied more often than those whose parents were together (p=0.001) (Table IV,V). Yang et al. (56) found that children with a single parent were bullied more than others (p<0.001).

In this study, students whose mothers had graduated from secondary and high school were exposed to threats/intimidation to a lesser extent than those whose mothers had graduated only from primary school (p<0.05) (Table VI). In another study, students whose mothers had a high level of education were at less risk of being bullied than those with a low level of education (57).

Study Limitations

One limitation of this study is that the research was done with students in only one city in Turkey where the data were collected. Therefore, the results obtained without research can be generalized to students in this research group.

Conclusions

Bullying behaviors among school-aged children occurred more frequently among boys, students who did not like school, those who lived with single parents, and those who were exposed to bullying. Exposure to bullying was affected by being overweight, not liking one's school, and a poor economic status. It could be suggested that these students and their families should be regularly followed up concerning bullying, and programs to prevent bullying should be developed and disseminated among students, teachers, and parents.

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Ethics

Ethics Committee Approval: The study was approved by the Ethics Committe of Nevşehir Hacı Bektaş Veli University (approval number: 2014/01.01).

Informed Consent: Written and verbal consent from the students and their families were obtained.

Peer-review: Externally and internally peer-reviewed.

Authorship Contributions

Concept: Z.Ç., D.E., M.B., Design: Z.Ç., D.E., M.B., Data Collection or Processing: D.E., N.C., B.K., D.K., Analysis or Interpretation: D.E., A.Ö., Literature Search: D.E., N.C., Writing: Z.Ç., D.E., M.B.

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