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Are adolescents with social anxiety disorder in danger of peer bullying?

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Abstract

Aim: This study aimed to assess the rates of peer bullying and stress-coping strategies in adolescents with SAD and to investigate the relationship between SAD and different types of peer bullying.

Materials and Methods: This cross-sectional study included ninety-two adolescents aged 14 to 17 years with SAD and one hundred-five typically developing adolescents. A semi-structured psychiatric interview, the Social Anxiety Scale for Adolescents (SAS-A), the Peer Bullying Scale-Adolescent Form (PBS-AF), and the Coping Scale for Adolescents (CSA) were applied to all participants. Peer bullying was classified into six types (physical, verbal, exclusion, spreading rumors, attacks against property, and sexual) and two roles (bullying and victimization).

Results: On every subscale of the PBS-AF victimization dimension, the SAD group's mean scores were significantly higher than those of the controls. Regarding the PBS-AF bullying dimension, the Physical Bullying and Sexual Bullying scores of the SAD group were significantly lower than the control group, but the Isolation/ Exclusion scores were significantly higher than the control group. Compared to the control group, the mean scores of Active Coping of CSA were significantly lower, while the mean scores of Negative Coping and Avoidant Coping were significantly higher in the SAD group. The SAS-A's total score had a significant positive correlation with all subscales of the PBS-AF victimization dimension. Age, gender, academic performance, and psychiatric comorbidity had a predictive effect on some of the victimization dimension variables of peer bullying.

Conclusion: This study has revealed that SAD is an important risk factor for peer victimization. The routine psychiatric examination of adolescents with SAD should also include a screening for peer bullying.

Introduction

Peer bullying is defined as the intentional and repetitive display of negative behaviors by the physically and/or socially stronger against the weaker with the intent to harm [1]. These negative behaviors can be physical (hitting, pushing), verbal (threatening, humiliating), relational/social (spreading rumors, exclusion), sexual (touching, kissing for sexual purposes), and property damage (damaging their belongings, taking them without permission) [2]. Peer bullying, the prevalence of which is increasing today, is an important public health problem with life-threatening consequences.

According to 2018 data from the Organization for Economic Co-operation and Development (OECD), 8% of students reported being bullied "frequently", while 28% were bullied more than once a month [3]. According to the results of the 2022 Program for International Student Assessment (PISA), the most common forms of bullying that students in Turkey are exposed to are verbal and relational, and the rate of verbal bullying victimization of students more than once a month is 15% and the rate of relational victimization is 12% [4].

Research shows that bullying victimization is associated with many psychosocial factors [5,6]. According to the results of the research on the subject, age, gender, family relations (e.g., domestic violence, impaired family integrity), rejecting parental attitudes, low-income level, academic failure, negative school environment, poor peer relations, and low self-esteem are the causally related factors to peer bullying victimization [7,8]. Studies show that bullying victimization is associated with severe psy-

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chopathologies such as depression, anxiety disorder, suicidal thoughts/attempts, ADHD and substance use [9-11]. In a study conducted by Gong et al. (2022) with university students, it was found that bullying and victimination were positively associated with general anxiety levels [12]. According to the results of the research, one of the psychiatric disorders thought to be associated with peer victimization is social anxiety disorder [13].

Social anxiety disorder (SAD) is a disorder characterized by a significant fear or anxiety that causes a person to endure with chronic avoidance and/or intense anxiety in one or more social situations that may be evaluated by others [14]. The mean age of onset is 13-18 years, and the lifetime prevalence is known to be between 2.4% and 13.7% [15-18]. SAD is a disorder that predisposes to negative life experiences [19, 20]. Studies on the subject show that there is a positive relationship between SAD and peer bullying victimization, and that exposure to peer bullying is high in children and adolescents with high levels of social anxiety [21-25]. According to studies, one of the factors associated with SAD is coping strategies [26,27].

Coping is defined as the behavioral and emotional efforts that a person uses to manage their internal and external desires [28]. Spirito, Stark and Williams (1988) define the coping strategies used by adolescents by dividing them into three [29]. In active coping, there is understanding and defining the problem, producing and implementing healthy solutions. In negative coping, the problem is perceived as a threat, the person tends to blame himself and/or others, believing that he cannot solve the problem. In avoidant coping, on the other hand, there are dysfunctional attitudes such as denying, ignoring and avoiding the problem [30]. The coping strategies used by a person to manage stressful situations are highly individual and directly associated with psychological well-being. Research results show that individuals who use active (problem-oriented) coping strategies experience fewer mental health problems than those who use negative and/or avoidant coping methods [31]. A similar relationship with coping strategies was also found in children and adolescents with high levels of peer victimization and social anxiety [26,27,32]. Research results show that peer victimization is associated with avoidant coping strategies, and SAD is associated with negative and/or avoidant coping strategies [33].

When the literature is examined, it has been seen that the studies examining the relationship between SAD and bullying victimization in Turkey are quite limited [23-25]. It was determined that the existing studies were mostly community sample studies and no study with a clinical sample including a control group was found. This study aimed to examine peer bullying and victimization in adolescents diagnosed with SAD by comparing them with the healthy control group. The first hypothesis of our study is that peer victimization is significantly higher in adolescents diagnosed with SAD than in healthy adolescents. In line with this hypothesis, the second aim of our study is to examine the risk factors associated with peer victimization in SAD. According to research, one of the factors associated with both SAD and peer victimizations in children and adolescents is coping strategies [26,27]. When the literature was examined, it was determined that studies examining the relationship between peer victimization and coping strategies in SAD were quite limited, and no similar study was found in Turkey. Another aim of this study is to evaluate coping strategies in adolescents diagnosed with SAD. The second hypothesis of the study is that active coping strategies are low in adolescents diagnosed with SAD. Identifying peer bullying victimization and related factors is vital for early intervention and protective measures. Additionally, examining the relationship between bullying victimization and SAD is thought to be important in terms of clinical approaches and treatment interventions for adolescents with high levels of social anxiety.

Materials and Methods

Participants

After power analysis, this study included 92 adolescents between the ages of 14 and 17 who were diagnosed SAD [59 females (64.1%), mean (SD) age: 15.15±1.04 years] and 105 controls [63 females (60.0%), the mean (SD) age: 15.40±1.03 years] who did not have any present or past psychopathology but were similar to the SAD group in terms of age, gender, sociocultural characteristics, and also educational attainment. The SAD sample was recruited from patients who attended the Departments of Children and Adolescent Psychiatry at Sivas Cumhuriyet University Hospital and İnönü University Hospital. The sample size was calculated by G*Power (3.1.9.4) analysis based on the nominal significance level of $\alpha = 0.05$, the effect size of r = 0.3 and the power value of 1-$\beta = 0.8$, and the minimum total sample size (n) was determined as 178 as a result of the evaluation The control group was recruited from relatives of the hospital personnel by simple random sampling method. Initially, 110 healthy adolescents were selected for the control group, but 5 adolescents were not included in the study because their data entry was incomplete. All participants were free of any chronic medical conditions, specific learning disabilities, intellectual disability, autism spectrum disorders, acute mania, and psychosis. Obesity, short stature, visual and/or hearing impairment are risk factors for social phobia [34]. These factors were considered as confounding risk factors and participants with overweight (body mass index [BMI] ≥85th percentile), obese (BMI ≥95th percentile), short in stature (height <3rd percentile for the mean height of chronologic age, sex, and population group), and thin (BMI <-2 standard deviations below the median) and those with significant hearing or visual impairments were excluded. We also excluded adolescents with noticeable differences/defects, such as a scar, mark, or condition on the face or body that makes the adolescent appear different. All participants were enrolled between January 2022 and February 2024. After a full verbal explanation of the study, all participants agreed to participate in the study, and written and verbal informed consent from parents/legal representatives and assent from adolescents were obtained, for an anonymous use of their information in scientific publications.

Clinical assessment and data collection tools

SAD was diagnosed according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) (APA, 2013)

criteria. In addition, a semi-structured psychiatric interview (Turkish version of the Schedule for Affective Disorders and Schizophrenia for School-Aged Children- Present and Lifetime Version, DSM-5-K-SADS-PL-DSM-5-T) was conducted with all participant and their parents to determine the presence of current and past psychopathology. Kauffman et al. (1997) this evaluation tool, developed by, consists of three parts. The first part consists of an unstructured initial interview, the second part consists of a diagnostic screening interview, and the third part consists of a general evaluation scale for children. Turkish validity and reliability studies by Ünal et al. (2019) conducted by [35].

Sociodemographic Data Form: Sociodemographic characteristics (age, sex, place of residence, family characteristics, etc.) and clinical data of participants were collected using this form prepared specifically by the researchers. The researchers filled out the parameters of this form during interviews with participants and their parents. Also, the body weight, height, and body-mass index (BMI: body mass/height^2) of each adolescent using standard techniques were recorded.

Social Anxiety Scale for Adolescents (SAS-A): This self-reported scale was developed by LaGreca and Lopez (1998) to measure social anxiety (SA) in adolescents, and its validity and reliability were performed by Zorbaz and Dost (2014) in Turkey [36]. SAS-A consists of 18 items (plus 4 unrelated items), and items are scored from 1 (Strongly disagree) to 5 (Strongly agree). It has a three-subdimensional structure: Fear of Negative Evaluation (FNE), Social Avoidance and Distress-New (SAD-New) and Social Avoidance and Distress-General (SAD-Gen). Total scores can range from 18 to 90, with higher scores indicating greater levels of SA.

Peer Bullying Scale-Adolescent Form (PBS-AF): The scale developed by Ayas and Pişkin (2015) is a self-report scale consisting of 53 items used to determine the frequency of involvement in peer bullying in terms of bully and victim [2]. Six types of bullying behavior (physical, verbal, exclusion, spreading rumors, property attacks and sexual) are questioned in the scale. Participants are desired to respond on a five-point scale (asks how often it occurred to the respondent: “almost every day-5,” “at least once a week-4,” “once a month-3,” “once a term-2,” or “never-1”) for both dimensions. The lowest score from the scale is 53 and the highest score is 265. High scores from the scale for both the bully and victim dimensions indicate a high frequency of involvement in bullying.

Coping Scale for Adolescents (CSA): CSA (also known as KIDCOPE in international literature) was developed by Spirito et al. (1998) to assess adolescents’ coping strategies, and Bedel et al. (2014) conducted the validity and reliability of the Turkish version [29,30]. The scale includes 11 items that assess ten coping strategies (social distancing, distraction, wishful thinking, cognitive restructuring, social support, problem-solving, self-criticism, emotion regulation, withdrawal, and blaming others) and three subscales (Active Coping, Avoidant Coping, Negative Coping). The items are rated on a four-point Likert scale, ranging from 0 (Never) to 3 (Always).

Statistical analysis

SPSS software- Version 23 (IBM Corp., Armonk, NY, USA) was used to analyze the data. Normality was tested by a one-sample Kolmogorov-Smirnov test. In descriptive statistics, quantitative data were presented as mean ± standard deviation (SD), whereas qualitative data were given as frequencies and percentages. Statistical comparisons were performed with independent-sample t-test as appropriate. Correlations were evaluated using Pearson correlation analysis. Linear regression analyses were used to detect associations between certain variables and to determine some variables as predictive factors for peer bullying. In linear regression analysis, dummy variables were used for categorical data. For all analyses, $p<0.05$ was considered statistically significant.

Results

Socio-demographic and familial characteristics of participants

SAD and control groups did not differ significantly in terms of age, gender, type of school they attended, academic performance, family income level, place of residence, family structure, parents’ age, education level, and employment status ($p > 0.05$). However, the frequency of "history of timidity, shyness, and social fear(s) in family members" was significantly higher in the SAD group compared to the control group (63.0% vs. 20.0%, $p < 0.001$). In terms of psychopathology, at least one accompanying psychopathological condition was discovered in 78.3% (n=72) of the SAD cases (Table 1).

Comparison of the Social Anxiety Scale, Peer Bullying Scale, and Coping Scale scores between the SAD and control groups

As expected, the SAD group scored significantly higher on all three subscales and the total SAS-A than the control group ($p < 0.001$). Similarly, the SAD group had significantly higher mean scores on all subscales of the victimization dimension of PBS-AF compared to the control group ($p < 0.001$) (Table 2).

While the mean scores of the SAD group in the Physical Bullying ($p = 0.002$, Cohen’s d: 0.428, t:-2.998) and Sexual Bullying ($p < 0.001$, Cohen’s d: 1.079, t: -6.073) subscales of the PBS-AF bullying dimension were significantly lower than the control group, the Isolation/Exclusion ($p < 0.001$, Cohen’s d: 1,169, t: 9.769) scores were significantly higher. The mean scores of the Verbal Bullying, Spreading Rumors and Attacks Against Property subscales of the bullying dimension did not show a significant difference between the two groups ($p > 0.05$) (Table 2).

As for the CSA, compared to the control group, the mean scores of Active Coping of CSA were significantly lower in the SAD Group, while the mean scores of Negative Coping and Avoidant Coping were significantly higher ($p < 0.001$) (Table 2).

Correlations between Social Anxiety Scores and Coping Scores, and Peer Bullying Scores

Pearson correlation analysis revealed that the SAS-A total score had a significant positive correlation with all subscales of the victimization dimension of the peer bullying

Table 1. Socio-demographic characteristics of the sample.

	Social Anxiety Disorder Group (N=92)	Control group (N=105)	p-value*
Age (mean-years±SD)	15.15±1.04	15.40±1.03	0.094[a]
Sex (n,%)			0.551
Male	33 (35.9)	42 (40.0)	
Female	59 (64.1)	63 (60.0)	
Family Income Level (n, %)†			0.963
The minimum wage/less than minimum wage	40 (43.5)	46 (43.2)	
Above the minimum wage	52 (56.5)	59 (56.2)	
Place of residence (n,%)			0.975
Urban	55 (59.8)	63 (60.0)	
Rural	37 (40.2)	42 (40.0)	
Age of the Mother (mean-years ± SD)	43.32±3.81	44.09±3.83	0.160[a]
Level of Education of the Mother (n,%)			0.830
High school and lower	60 (65.2)	70 (66.7)	
University and above	32 (34.8)	35 (33.3)	
Regular Job of the Mother (n,%)			0.621
Yes	40 (43.5)	42 (40.0)	
No	52 (56.5)	63 (60.0)	
Age of the Father (mean-years ± SD)	46.13±3.55	46.60±4.78	0.440[a]
Level of Education of the Father (n,%)			0.960
High school and lower	54 (58.7)	62 (59.0)	
University and above	38 (41.3)	43 (41.0)	
Regular Job of the Father (n,%)			0.871
Yes	79 (85.9)	91 (86.7)	
No	13 (14.1)	14 (13.3)	
Family type (n,%)			0.663
Nuclear	55 (59.8)	63 (60.0)	
Single-parent (divorced, separated, or death)	16 (17.4)	14 (13.3)	
Extended	21 (22.8)	28 (26.7)	
School Type (n,%)			0.664
Private school	28 (30.4)	35 (33.3)	
State school	64 (69.6)	70 (66.7)	
Academic Performance (n,%)			0.874
Average	43 (46.7)	49 (46.7)	
Above average	16 (17.4)	21 (20.0)	
Below average	33 (35.9)	35 (33.3)	
History of timidity, shyness, and social fear(s) in family members (n,%)	58 (63.0)	21 (20.0)	**< 0.001**
Presence of psychiatric comorbidity (n,%)	72 (78.3)	–	–

*The chi-square test for categorical variables and the independent-sample t-test for continuous variables were used to test group differences. Data were given as mean ± standard deviation or number (percent%). Bold font indicates statistical significance: $p < 0.05$. †The level of income was determined by the minimum wage value on the date of the study.

Abbreviations: SD, Standard Deviation. a: Cohen's $d_{Age} = 0.232$, Cohen's $d_{Age\ of\ the\ Mother} = 0.052$, Cohen's $d_{Age\ of\ the\ Father} = 0.026$.

scale (PBS-AF) ($p < 0.001$). However, considering only the SAS-A total score, it was determined that the SAS-A total score and the Physical Bullying-Victimization subscale showed a moderately significant positive correlation, the Verbal Bullying and Spreading Rumors-Victimization subscales showed a strong significant positive correlation, and the Isolation/Exclusion-Victimization subscale showed a very strong significant positive correlation. On the other hand, there was a significant but weakly positive correlation between the SAS-A total score and the Attacks Against Property and Sexual Bullying-Victimization subscales. Also, the SAS-A total score exhibited a very strong significant positive correlation with the total score of the Victimization Dimension of the peer bullying scale ($p < 0.001$) (Table 3).

Regarding the Bullying Dimension of the peer bullying

Table 2. Comparison of the Social Anxiety Scale, Peer Bullying Scale, and Coping Scale scores between the SAD and control groups.

	Social Anxiety Disorder Group (N=92)	Control group (N=105)	p-value*	Cohen's d	t
SAS-A- Fear of Negative Evaluation (SAS-A-FNE) (mean±SD)	23.16±4.92	8.73±2.24	**< 0.001**	3.867	25.860
SAS-A- Social Avoidance and Distress specific to new situations or unfamiliar peers (SAS-A-New) (mean±SD)	23.72±3.29	11.27±3.71	**< 0.001**	3.536	24.793
SAS-A- Social Avoidance and Distress that is experienced more generally in the company of peers (SAS-A-Gen) (mean±SD)	19.39±3.07	9.60±3.30	**< 0.001**	3.064	21.468
SAS-A- Total Scores (mean±SD)	66.27±10.75	29.60±9.10	**< 0.001**	3.704	25.645
PBS-AF- Physical Bullying Scores (mean±SD)					
Victimization	22.98±6.29	16.87±1.26	**< 0.001**	1.394	9.159
Bullying	15.91±1.07	16.53±1.71	**0.002**	0.428	-2.998
PBS-AF- Verbal Bullying Scores (mean±SD)					
Victimization	17.70±4.50	10.01±1.16	**< 0.001**	2.417	15.934
Bullying	8.79±1.31	9.01±1.64	0.328	0.147	-0.966
PBS-AF- Isolation/Exclusion Scores (mean±SD)					
Victimization	19.40±4.18	8.27±1.70	**< 0.001**	3.581	23.906
Bullying	9.08±1.79	6.93±1.88	**< 0.001**	1.169	9.769
PBS-AF- Spreading Rumors Scores (mean±SD)					
Victimization	14.78±3.85	6.87±1.59	**< 0.001**	2.756	18.373
Bullying	6.68±1.59	6.33±1.40	0.063	0.235	1.948
PBS-AF-Attacks Against Property Scores (mean±SD)					
Victimization	13.88±3.25	11.98±1.63	**< 0.001**	0.755	5.657
Bullying	11.08±1.29	11.53±2.07	0.069	0.257	-1.831
PBS-AF- Sexual Bullying Scores (mean±SD)					
Victimization	14.63±4.58	11.70±1.87	**< 0.001**	0.860	6.377
Bullying	10.17±0.57	11.88±2.10	**< 0.001**	1.079	-6.073
CSA- Active Coping (mean±SD)	5.53±2.51	10.60±1.36	**< 0.001**	2.562	-17.879
CSA- Negative Coping (mean±SD)	6.20±1.28	4.73±1.85	**< 0.001**	0.913	6.363
CSA- Avoidant Coping (mean±SD)	10.23±1.01	4.40±1.36	**< 0.001**	4.818	34.467

*Independent-sample t-test. Data were given as mean±standard deviation. Bold font indicates statistical significance: $p < 0.05$.
Abbreviations: CSA, Coping Scale for Adolescents; PBS-AF, Peer Bullying Scale-Adolescent Form; SAS-A, Social Anxiety Scale for Adolescents; SD, Standard Deviation.

scale, the SAS-A total score showed a significant but weak negative correlation with Physical Bullying, Verbal Bullying, and Attacks Against Property-Bullying subscale scores, and a moderately significant negative correlation with Sexual Bullying-Bullying scores; however, there was no significant correlation with Spreading Rumors-Bullying scores. In contrast, Isolation/Exclusion-Bullying subscale scores exhibited a moderately significant positive correlation with the SAS-A subscales and total score ($p < 0.05$). In addition, the SAS-A total score showed a significant but weak negative correlation with the total score of the Bullying Dimension of the peer bullying scale ($p < 0.001$) (Table 3).

Regarding the correlations between SAS-A and CSA, the SAS-A total score displayed a very strong significant negative correlation with the Active Coping subscale of CSA, but a very high strong significant positive correlation with the Avoidant Coping subscale of CSA ($p < 0.001$). On the other hand, the Negative Coping subscale of CSA showed a significant but very weak positive correlation with the SAS-A total score ($p < 0.05$) (Table 3).

Active coping showed a significant but weak negative correlation with Physical Bullying-Victimization, Verbal Bullying-Victimization, Attacks Against Property-Victimization, and Sexual Bullying-Victimization scores, while it showed a moderately significant negative corre-

Table 3. Correlations between Social Anxiety Scores and Peer Bullying and Coping Scores.

	SAS-A-Total		Active Coping		Negative Coping		Avoidant Coping	
	p*	r*	p*	r*	p*	r*	p*	r*
Physical Bullying								
Victimization	**< 0.001**	0.646	**0.016**	-0.262	**< 0.001**	-0.384	0.640	-0.049
Bullying	**< 0.001**	-0.259	0.478	0.075	**0.027**	0.231	0.169	-0.145
Verbal Bullying								
Victimization	**< 0.001**	0.782	**< 0.001**	-0.394	0.103	0.171	0.319	0.105
Bullying	**0.002**	-0.220	0.662	-0.046	0.055	0.201	0.065	-0.193
Isolation/Exclusion (mean±SD)								
Victimization	**< 0.001**	0.917	**< 0.001**	-0.613	0.811	-0.025	**0.001**	0.349
Bullying	**< 0.001**	0.470	0.840	-0.021	**< 0.001**	0.498	0.110	-0.168
Spreading Rumors								
Victimization	**< 0.001**	0.823	**< 0.001**	-0.637	0.782	-0.029	0.079	0.184
Bullying	0.889	-0.010	0.802	-0.027	0.481	-0.074	0.448	-0.080
Against Property								
Victimization	**< 0.001**	0.332	**0.017**	-0.270	**0.001**	-0.371	0.746	-0.034
Bullying	**< 0.001**	-0.314	0.114	-0.166	0.067	0.192	0.151	-0.151
Sexual Bullying								
Victimization	**< 0.001**	0.447	**0.005**	-0.287	0.156	-0.149	0.694	-0.042
Bullying	**< 0.001**	-0.470	0.533	-0.066	**< 0.001**	0.438	0.054	0.055
PBS-AF-Total Victimization	**< 0.001**	0.830	**< 0.001**	-0.535	0.513	-0.069	0.346	0.099
PBS-AF-Total Bullying	**< 0.001**	-0.254	0.605	-0.055	**0.001**	0.339	0.141	-0.155
CSA- Active Coping (mean±SD)	**< 0.001**	-0.881						
CSA- Negative Coping (mean±SD)	**0.038**	0.158						
CSA- Avoidant Coping (mean±SD)	**< 0.001**	0.921						

*Pearson correlation analysis. Bold font indicates statistical significance: p < 0.05.

Abbreviations: CSA, Coping Scale for Adolescents; PBS-AF, Peer Bullying Scale-Adolescent Form; SAS-A, Social Anxiety Scale for Adolescents.

lation with Isolation/Exclusion-Victimization, Spreading Rumors-Victimization, and Total Victimization scores ($p < 0.05$).

However, active coping scores did not show a significant correlation with any subscale scores in the Bullying Dimension of peer bullying and with the Total Bullying score ($p > 0.05$). Negative coping scores were significantly (but weak negatively) correlated only with Physical Bullying-Victimization and Attacks Against Property-Victimization scores, among those on the victimization dimension of peer bullying. In contrast, negative coping showed a significant but weak positive correlation with Physical Bullying-Bullying, Isolation/Exclusion-Bullying, Sexual Bullying-Bullying, and Total Bullying scores among the bullying dimensions of peer bullying ($p < 0.05$). Avoidant coping scores were significantly (but weak positively) correlated only with Isolation/Exclusion-Victimization scores, among those on the victimization dimension of peer bullying ($p = 0.001$).

However, avoidant coping scores did not show a significant correlation with any subscale scores in the Bullying Dimension of peer bullying and with the Total Bullying score ($p > 0.05$) (Table 3).

Evaluation of predictors of Peer Bullying-Victimization Dimension in linear regression model

Linear regression models were applied to evaluate the predictive value of some key clinical variables (such as age, sex, academic success, school type, psychiatric comorbidity, family income, place of residence, parents' age, education and employment status, family structure, and family history of social phobia) in victimization dimension of peer bullying. Regression models were performed in the SAD group and $p < 0.100$ independent variables were included in the model. Victimization subscales and total victimization variables were taken as dependent variables in regression models. Regression analysis showed that none of the above variables, except age, gender, academic performance, and psychiatric comorbidity, had a predictive effect on the victimization dimension variable of peer bullying ($p > 0.05$). Regression analysis yielded that sex and psychiatric comorbidity predicted "Physical Bullying-Victimization"; age, sex, and academic performance predicted "Verbal Bullying-Victimization", "Isolation/Exclusion-Victimization", and "Sexual Bullying-Victimization"; sex and academic performance predicted "Attacks Against Property-Victimization"; age, sex, academic performance and psychiatric comorbidity predicted "Spreading Rumors-

Table 4. Predictors of Peer Bullying-Victimization Dimension in Linear Regression Model.

Model		Unstandardized Coefficients		Standardized Coefficients			
		B	SE	β	t	p	Adjust R2
Physical Bullying-Victimization	Constant	22.579	1.203		18.765	< 0.001	0.370
	Sex	-7.449	1.125	-0.571	-6.620	< 0.001	
	Psychiatric comorbidity	6.613	1.308	0.436	5.055	< 0.001	
Verbal Bullying-Victimization	Constant	41.278	7.049		5.856	< 0.001	0.336
	Age	-1.736	0.474	-0.400	-3.659	< 0.001	
	Sex	1.841	0.939	0.197	2.961	0.033	
	Academic Performance	-3.805	0.559	-0.600	-6.806	< 0.001	
Isolation/Exclusion Victimization	Constant	44.872	5.350		8.388	< 0.001	0.374
	Age	-1.600	0.345	-0.397	-4.639	< 0.001	
	Sex	2.239	0.722	0.259	3.101	0.003	
	Academic Performance	-3.269	0.506	-0.556	-6.462	< 0.001	
Spreading Rumors-Victimization	Constant	31.021	4.043		7.674	< 0.001	0.581
	Age	-1.105	0.261	-0.297	-4.229	< 0.001	
	Sex	3.168	0.569	0.396	5.569	< 0.001	
	Academic Performance	-3.452	0.389	-0.636	-8.882	< 0.001	
	Psychiatric comorbidity	1.644	0.671	0.177	2.450	0.016	
Attacks Against Property-Victimization	Constant	15.754	0.627		25.129	< 0.001	0.133
	Sex	-1.319	0.702	-0.198	-1.937	0.035	
	Academic Performance	-1.412	0.454	-0.308	-3.110	0.003	
Sexual Bullying-Victimization	Constant	0.311	6.153		0.051	0.960	0.337
	Age	-1.187	0.397	-0.269	-2.992	0.004	
	Sex	-3.356	0.831	-0.354	-4.040	< 0.001	
	Academic Performance	-1.855	0.582	-0.288	-3.1882	0.002	
Total Victimization	Constant	110.227	4.927		2.372	< 0.001	0.265
	Academic Performance	-12.728	2.652	-0.443	-4.800	< 0.001	
	Psychiatric comorbidity	9.951	4.687	0.202	2.123	0.037	

Victimization; and that academic performance and psychiatric comorbidity predicted "Total Victimization". Accordingly, compared to girls, boys were 7,449 units more likely to be victims of Physical Bullying, 1,319 units more likely to be victims of Attacks Against Property, and 3,356 units more likely to be victims of Sexual Bullying. By contrast, compared to boys, girls were 1,841 units more likely to be victims of Verbal Bullying, 2,239 units more likely to be victims of Isolation/Exclusion, and 3,168 units more likely to be victims of Spreading Rumors. Sex had no predictive value on Total Victimization. Verbal Bullying-Victimization, Isolation/Exclusion-Victimization, Spreading Rumors-Victimization, and Sexual Bullying-Victimization were negatively predicted by the age, whereas all dependent variables except Physical Bullying- Victimization were negatively predicted by the academic performance. Physical Bullying- Victimization, Spreading Rumors- Victimization, and Total Victimization were positively predicted by psychiatric comorbidity (Table 4).

Discussion

In this study, peer bullying, including coping skills and victim-bullying, were evaluated in adolescents diagnosed with SAD and some meaningful results were obtained.

The results of the study showed that the history of timidity, shyness, and social fear(s) is significantly higher in family members than in the control group of the SAD group. It is known that genetic factors are important in SAD and the incidence of SAD and related problems is high in parents of children with SAD [37]. Although the psychiatric histories of the parents were not evaluated in our study, the high level of SAD-like findings in family members seems to be consistent with the literature. Comorbidity with other psychiatric disorders is common in SAD, and according to studies, the incidence of at least one comorbidity is 60% [38,39]. In this study, 72 (78.3%) of the adolescents in the SAD group had at least one comorbid psychiatric disorder, and our results are consistent with the literature.

One of the crucial results of this study was that all subtypes of peer bullying victimization in the SAD group, including physical, verbal, isolation/exclusion, spreading rumors, attacks against property, and sexual, and the total scores of victimization are significantly higher than the control group. More importantly, we determined that there is a positive significant relationship between the SA levels of the participants and all subtypes and total scores of peer bullying victimization. Gren-Landell et al. (2011) conducted a study with 3211 high school students with an average age of 17.3 years and found that peer victimization was higher in adolescents with high SA levels than in ado-

lescents with normal SA [40]. Similar results were found in the study conducted by Namlı with secondary school students, and it has been observed that bullying victimization was high in those with high SA levels [25]. In a large-sample study conducted by Chen et al. (2023) with adolescents, a positive relationship was found between adolescents' SA levels and peer bullying victimization [41]. The results of the study showed that SA levels are positively associated with peer bullying victimization, and that peer bullying victimization is higher in adolescents with SAD than in healthy adolescents. In support of this, studies have found that internalizing symptoms such as anxiety and depression are risk factors for bullying victimization [42,43]. SAD is one of the internalizing disorders characterized by increased anxiety, especially in social relationships. When the results of this study are evaluated in the light of the literature, it suggests that adolescents with SAD are at risk for bullying victimization.

In this study, it was determined that the size of bullying in the SAD group was significantly lower than the control group of physical and sexual bullying subtypes, and the isolation/exclusion subtype was significantly higher than the control group. In addition, it was determined that all subtypes of bullying except isolation/exclusion and bullying total scores and SA levels were negatively correlated, and isolation/exclusion levels were positively correlated with SA. Research shows that traits such as impulsivity and extrovert temperament are evident in individuals who play bullies, and disruptive behavior disorders such as conduct disorder and oppositional defiant disorder are associated with bullying [42-44]. Considering that our case group consists of adolescents diagnosed with SAD, it is expected that the levels of bullying will be low. The main theme in individuals with high SA levels is the fear of receiving reactions such as negative evaluation, rejection, and exclusion by others [45]. The negative relationship between SA level and bullying may be related to the fact that adolescents with SAD do not feel comfortable in peer relationships due to the peak of rejection. Interestingly, in this study, it was found a positive relationship between isolation/exclusion bullying and SA levels. Isolation/exclusion is a type of indirect bullying that does not include directly observable behaviors such as physical and/or verbal bullying, such as ignoring or not including others in anything [1,2]. Individuals with high SA and/or SAD tend to perceive others as a threat and form distant relationships in connection with their cognitive processes, such as maladaptive schemas and negative core beliefs [46]. Isolation/exclusion behavior, which is positively associated with SA elevation, may also be a defense mechanism developed by the adolescent to protect himself against others.

In this study, it was found that while the active coping levels of the SAD group were significantly lower than the control group, the avoidant and negative coping levels were significantly higher. In addition, a positive correlation was found between SA levels and active coping levels, and a negative correlation was found between avoidant and negative coping levels. In a study conducted by Keskin and Orgun (2007) with university students, they found a positive significant relationship between SA level and avoidant coping [47]. Similar results were found in the study conducted by Tamannaeifar and Sanatkarfar (2017), and a negative significant relationship was found between the SA level of adolescents and problem-oriented/active coping strategies [48]. The results of the study are consistent with the literature and suggest that there is a negative relationship between SA and positive (active) coping strategies, and that the frequency of use of negative and avoidant coping strategies is higher in adolescents diagnosed with SAD. Considering the cognitive processes associated with SAD, it is expected that negative and/or avoidant coping strategies will be used more in patients with SAD, as problem-oriented coping methods will increase stress in the face of a stressful situation.

The coping strategies are an important factor in peer bullying victimization [49]. Yin et al. (2017) found a negative significant relationship between active coping and peer bullying victimization [50]. In the study conducted by Özer and Korkman (2020) with adolescents, a negative, negative and avoidant coping with positive relationship were found between victimization and active coping, and it was determined that negative coping predicted peer bullying victimization [51]. In this study, in line with the literature, a negative significant relationship was found between all bullying victimization subtypes and total victimization scores and active coping levels. In other words, as expected, there is an inverse relationship between problem-oriented coping methods and victimization. However, a significant and positive relationship was found between negative coping and only physical and attacks again property bullying victimization subtypes, but a significant and positive relationship was found between negative, avoidant coping and isolation/exclusion victimization subtype only. The negative relationship between negative coping strategies and victimization of physical and attacks again property is inconsistent with the literature. One of the negative coping strategies is defined as "expressing anger by shouting and damaging things" [30]. Although the process in which anger is expressed in the face of the problem is not a constructive and/or healthy solution, it may protect the adolescent against bullies, even if it is for a short time. It is thought that longitudinal follow-up studies in which different mediating factors were examined are needed to evaluate the relationship between coping strategies and peer bullying victimization in adolescents diagnosed with SAD.

In this study, gender, age, academic performance, psychiatric comorbidity was found to be predictors of peer bullying victimization in adolescents diagnosed with SAD. In the study conducted by Ay et al. (2022) with adolescents diagnosed with SAD, a negative correlation was found between age and verbal bullying victimization, and a positive correlation was found between psychiatric comorbidity and verbal, rumor spreading, exclusion, and sexual victimization [24]. In this study, it was determined that age negatively predicted verbal, rumor-spreading, isolation/exclusion and sexual bullying victimization, while psychiatric comorbidity positively predicted physical, rumor-spreading, bullying victimization and total victimization scores. The results of this study appear to be consistent with the literature. Some studies show that peer bullying victimization decreases with age as of adolescence [52,53]. The inversely proportional relationship

between age and bullying victimization can be explained by the maturation of the adolescent's defense mechanisms with age, the strengthening of the self, and the ability to better protect himself against external threats. Psychiatric comorbidity is expected to positively affect peer bullying victimization. One of the most important risk factors for the victim in peer bullying is internalizing disorders [13,42,43]. Social phobia is a mental disorder in which comorbid internalizing disorders (depression, other anxiety disorders) are common [38]. Psychiatric disorders that accompany social phobia may weaken the adolescents' self, causing there to become the target of the bully.

In this study, gender was determined as another predictor factor in terms of bullying victimization in the SAD group, and it was determined that being a girl was a positive predictor of verbal, isolation/exclusion and spreading rumors, and being a boy was a positive predictor of physical, attacks again property and sexual bullying victimization. Studies show that girls are more exposed to relational bullying victimization, such as spreading rumors and talking badly about them, while boys are more exposed to direct types of bullying, such as physical bullying [54,55]. The results of this study, consistent with the literature, showed that the female gender predicted victimization in verbal and relational bullying types and the male gender predicted victimization in physical, property damage, sexual, that is, direct bullying types in adolescents diagnosed with SAD. This relationship between gender and the types of bullying can be explained by the characteristics and social characteristics specific to gender role.

Another important finding of this study is that academic performance in adolescents diagnosed with SAD negatively predicts victimization and total victimization scores in all types of bullying other than physical bullying. Studies show that school success and peer bullying victimization are negatively correlated [56]. When the results of this study are evaluated in the light of the literature, it suggests that there may be a bidirectional relationship between bully victimization and academic performance. While bullying victimization negatively affects school success, low academic performance may also negatively affect the popularity of adolescents in the school environment, paving the way for bullying victimization.

Strengths and Limitations

The strengths of the present study include the investigation of the different roles and types of peer victimization separately with a relatively larger sample size, the SAD sample was recruited from a clinical setting, and psychopathology was comprehensively assessed by semi-structured interview. However, this study has several limitations. First, the cross-sectional design of the study prevents the generalization of the results and the determination of definitive causality. Second, only adolescents between the ages of 14 and 17, which is the age range for which the scales are suitable, were included in the study. Finally, in the SAD group, we were unable to categorize comorbid psychiatric conditions that have the potential to influence rates of peer bullying. Despite these limitations, our study provides valuable information regarding peer bullying in adolescents with SAD and expands the findings of previous studies. Nevertheless, prospective longitudinal studies with a much larger sample size, including a wider age range, would be extremely valuable to replicate and confirm our findings.

Conclusion

The findings of this study revealed that victimization is high in all subtypes of bullying among adolescents diagnosed with SAD, despite low bullying levels. In addition, it was found that adolescents with SAD use active that was, problem-oriented coping strategies less, and that they resort to dysfunctional coping methods such as negative and avoidant more frequently. Peer bullying is a vital situation in terms of its negative consequences that cause many psychological problems and psychiatric disorders on its own. SAD, on the other hand, is an important mental disorder that affects the school, family and friend relationships of adolescents and causes dysfunction in almost every field. The consequences of peer bullying victimization (such as substance abuse, suicide attempts) in adolescents with SAD can be quite devastating. In the clinical evaluations of adolescents diagnosed with SAD, it is thought that questioning peer bullying victimization is very important in terms of both treatment and preventive mental health. In addition, supporting active coping skills in adolescents diagnosed with SAD may be protective against bullying as well as control of SA.

Conflict of interest

The authors declared that there were no conflicts of interest.

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Ethical approval

The study was approved by the local ethics committee and conducted in adherence to the principles of the Declaration of Helsinki and Good Clinical Practice procedures (Cumhuriyet University Non-invasive Clinical Research Ethics Committee, Date: 13.01.2022, No: 2022-01/52).

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