

Examination of Risk and Protective Factors in Adolescent Peer Bullying: A Meta-Analysis Study

Ergen Akran Zorbalığında Risk ve Koruyucu Faktörlerin İncelenmesi: Bir Meta Analiz Çalışması



Nurten Elkin¹, Ayşe Gülçin Özçelik², Bedriye Çelik Kanca³, Hasan Kütük⁴

DOI: 10.17942/sted.1584167

Geliş/Received: 13.11.2024
Kabul/Accepted: 13.11.2025

Abstract

Purpose: The aim of this meta-analysis was to examine the relationship between peer bullying and protective and risk factors in adolescents.

Materials and Methods: In this study, studies conducted between 2014 and 2024 that investigated the relationship between peer bullying and risk factors and protective factors in adolescents aged 12-18 years were used. To determine the studies to be included in the meta-analysis, PubMed, Academic Google, Web Of Science, PsycINFO, YÖK National Thesis Centre data-based literature search was conducted. A total of 2,177 sources were accessed. Studies that didn't meet the inclusion criteria were eliminated and a meta-analysis was performed with k=12 studies.

Findings: A total of 19,948 adolescents were analyzed. For the gender variable, a moderate but statistically non-significant effect size was found (Cohen's $d=-0.56$, $p=0.51$). Similarly, for parental attitude, a large but statistically non-significant effect size was observed (Cohen's $d=-1.45$, $p=0.21$). In contrast, the analysis for social support revealed a large and statistically significant effect size (Cohen's $d=4.13$, 95% CI [1.33;6.93], $p=0.01$). Heterogeneity tests showed high heterogeneity for all three variables.

Result: As a result of the meta-analysis study, children who receive social support are less likely to be bullied, and social support is seen as a protective factor in this case.

Keywords: adolescence; risk factors; social support; meta-analysis

Özet

Amaç: Bu meta-analizin amacı, ergenlerde akran zorbalığı ile koruyucu ve risk faktörleri arasındaki ilişkiyi incelemektir.

Yöntem: Bu çalışmada, 2014 ve 2024 yılları arasında 12-18 yaş arasındaki ergenlerde akran zorbalığı ile risk faktörleri ve koruyucu faktörler arasındaki ilişkiyi araştıran çalışmalar kullanılmıştır. Meta-analize dahil edilecek çalışmaları belirlemek için PubMed, Akademik Google, Web of Science, PsycINFO ve YÖK Ulusal Tez Merkezi veri tabanlarında literatür taraması yapılmıştır. Toplamda 2.177 kaynağa erişilmiştir. Dahil edilme kriterlerini karşılamayan çalışmalar elenmiş ve k=12 çalışma ile meta-analiz gerçekleştirilmiştir. Veriler, R ve R Studio v4.2 kullanılarak analiz edilmiştir.

Bulgular: Toplamda 19.948 ergenin verileri analiz edilmiştir. Cinsiyet değişkenine ilişkin analizde etki büyüklüğü orta düzeyde ancak istatistiksel olarak anlamlı bulunmamıştır (Cohen's $d=-0,56$, $p=0,51$). Benzer şekilde, ebeveyn tutumu değişkenine ilişkin analizde yüksek düzeyde ancak anlamsız bir etki büyüklüğü hesaplanmıştır (Cohen's $d=-1,45$, $p=0,21$). Buna karşın, sosyal destek değişkeni için yapılan analizde büyük ve istatistiksel olarak anlamlı bir etki büyüklüğü bulunmuştur (Cohen's $d=4,13$, 95% GA [1,33;6,93], $p=0,01$). Heterojenlik testleri her üç değişken için de yüksek heterojenlik göstermiştir.

Sonuç: Meta-analiz çalışmasının sonucunda, sosyal destek alan çocukların zorbalığa uğrama olasılıklarının daha düşük olduğu ve sosyal desteğin bu durumda koruyucu bir faktör olarak görüldüğü tespit edilmiştir.

Anahtar Sözcükler: ergenlik; risk faktörleri; sosyal destek; metaanaliz

¹ Dr. Öğr. Üyesi, İstanbul Gelişim Üniversitesi, Sağlık Bilimleri Fakültesi, Çocuk Gelişimi Bölümü (Orcid no: 0000-0002-9470-2702)

² Uzm., İstanbul Gelişim Üniversitesi, Lisansüstü Eğitim Enstitüsü (Orcid no: 0009- 0009-2757-8965)

³ Doktora Öğrencisi, Hacettepe Üniversitesi, Sağlık Bilimleri Enstitüsü, Çocuk Gelişimi Anabilim Dalı (Orcid no: 0000-0002-1659-120X)

⁴ Dr. Öğr. Üyesi, Yıldız Teknik Üniversitesi, Eğitim Fakültesi, Rehberlik ve Psikolojik Danışmanlık Anabilim Dalı (Orcid no: 0000-0002-8288-4107)

Introduction

Adolescence is a complex and critical period characterized by significant changes in physical and sexual development, as well as in biological, psychological, and social aspects (1). During this period, adolescents face challenges related to identity formation, social relationships, and autonomy, experiencing growth and maturation (2). Adolescence is not only examined in terms of physical and psychological dimensions; it also encompasses social structures and experiences (3). Friendship relationships are one of the most important elements within these social structures. Because during adolescence, the time adolescents spend with their friends is greater compared to childhood (4). In this context, friendship relationships during adolescence contribute to supporting biopsychosocial development. However, in some cases, the harmful role of friendship relationships comes to the forefront instead of their supportive role. One of the negative processes in friendship relationships is described as bullying. Although there are different definitions in the literature, peer bullying, which was first mentioned by Olweus (1980), was separated from general bullying (mobbing) and started to be examined as a different subject (5). Olweus (1993) defined the concept of peer bullying as a person being exposed to aggressive behaviours by a person or persons who have more power than him/her (6). From this point of view, it can be concluded that bullying is a kind of aggression, bullying is experienced between the parties as a result of a power imbalance and this aggression is continuous and deliberate. According to Olweus (1978), who conducted the first studies on the concept of bullying, any rude behavior must meet the following three criteria to be considered bullying:

- The behavior must be carried out with the deliberate intention to cause harm.
- The behavior must be repeated continuously.
- The bully and the victim must not be equal in many aspects, whether psychological or physical (7).

According to Farrington (2017), individuals exhibiting long-term and continuous violent and risky behaviors, combined with the addition of certain personality traits, lead to bullying

behaviors when these long-term effects cannot be controlled by negative emotions (8).

According to American Psychological Association [APA] (2022), bullying is the act of deliberately and continuously causing harm or distress to another person, either through physical contact or verbal means (9).

Olweus (1980), who conducted the first studies on bullying, worked with approximately 130 thousand students in Norway and found that 66% of the students were intensely bullied. In this study, Olweus found that bullying incidents were most common in high school (5).

In the study conducted by Gür et al. (2020) examining peer bullying and emotional expression, it was found that one in two adolescents in the sample experienced peer bullying (10). According to United Nations Educational, Scientific and Cultural Organization's (UNESCO) 2022 report, one-third of children worldwide are exposed to bullying (11). In her 2019 study with pre-adolescents, Karakuş Şahbaz reported that 36.7% of the sample group were identified as bullies. When the studies conducted in Turkey were examined, Karakuş Şahbaz (2019) stated that 36.7% of the sample group in her study with pre-adolescents were bullies (12). In the study conducted by Polat and Sohbet (2020), it was reported that 40.4% of the participating students exhibited bullying behaviors at school (13). In their 2019 study examining the factors contributing to bullying, Karataş and Ünalmış found that 33.38% of the student groups they studied reported being victims of bullying (14). In the study by Gökaya and Tekinsav Sütçü (2020), aimed at determining the statuses of peer bullying, 2.8% of the sample group were identified as bullies, 34.9% as victims, and 27.0% as bully-victims (15). In another study conducted in Iraq, Ahmed et al. (2019) reported that 60% of the group they studied had been involved in bullying at least once during the last semester of the school year, 3.0% were bullies, 26.2% were both bullies and victims of bullying, and 31.8% were victims of bullying (16). When looking at the changes in bullying based on gender, Chen et al. (2021) and Karakuş et al. (2023) stated in their studies that adolescent boys have a higher relationship with being

bullied and being bully-victims, while Ulfah et al. (2020) and Pazhouhi (2023) indicated in their studies that girls are more involved in bullying incidents (17-20).

Recent studies have been conducted to examine the protective and risk factors that indicate the presence of peer bullying; while risk factors include factors that may cause the person to be bullied, protective factors include the conditions that enable the person to continue his/her life in a balanced way without being bullied against these risky situations. Individual factors include children’s behavioural patterns, drug use, interruptions or developments in moral development, attention deficit and hyperactivity level (21,22). Among familial factors, the family’s involvement in all processes in the development of the child, the lack of domestic violence, the absence of family conflict and divorce can be counted among the protective factors (8). Processes such as having academic success, having a low tendency to run away from school, and a positive school environment that exists thanks to the functional relationships of teachers and students can be seen as school factors in reducing peer bullying (23). Finally, research shows that peer relationships are among the factors affecting peer bullying (23,24). High quality of peer relationships, social support perceived by students from their friends and positive social behaviours can be seen as protective factors against peer bullying.

The number of studies examining the protective and risk factors of peer bullying in the literature is quite high. However, what makes the study important is that a literature review was conducted according to the criteria determined and all the results were brought together and

a general evaluation was made. In this way, it has been in a guiding position in which direction future studies will proceed. In addition, by examining the risk and protective factors related to peer bullying, it is aimed to ensure that intervention programmes and familial impact on the variable in question will be increased in the future. This study aimed both to examine the concept of peer bullying in various aspects and to evaluate the effect of individuals’ social relations on peer bullying. In the study, according to the information in the literature;

- 1. Can the gender of children who have been bullied in the last ten years be seen as a protective or risk factor in bullying?
- 2. Can the attitude of the parents of children who have been bullied in the last ten years be seen as a protective or risk factor in being bullied?
- 3. Can the social support perceived by children who have been bullied in the last ten years be seen as a protective or risk factor in being bullied?

Answers to these questions were sought.

Method
Determination of Variables and Research Question

While conducting meta-analytic evaluation, some methods are used to determine the research question. One of the most commonly used methods is the PICOS technique (25). For the research question, participants are coded as P (Population), I (Interest), C (Comparison), O (Outcome) and S (Study design, research types). For this research, the question was determined as follows according to the PICOS technique (Table 1):

Table 1. Formulation of the research question according to PICOS Technique		
PICOS technique	Definition and explanations	Table for meta-analysis
P: Population and their problem	Adolescents	Adolescents exposed to peer bullying
I: Interest	Target group of interest	Factor category (e.g. male)
C: Comparison	Other group for comparison	Factor category (e.g. female)
O: Outcome	Clinical outcomes of interest to the investigator	Difference between categories
S: Study Design	The design of the studies to be evaluated in the research	Articles and theses

Inclusion and Exclusion Criteria

The inclusion criteria determined within the scope of the research are as follows:

- Adolescents between the ages of 11-18,
- She/he was subjected to peer bullying,
- There is sufficient information to measure the effect size (e.g. mean, standard deviation, variance, number of participants),
- Published in English or Turkish,
- Factors affecting peer bullying are evaluated through certain scales,
- Published between 2014 and 2024,
- Articles and theses

Data Collection

In the literature review conducted for meta-analysis and systematic review, keywords that will answer the research question were determined in the first place. After the keywords were determined, keywords were searched in databases and related studies were accessed. Table 2 shows the keywords identified and the databases used. The reason for using the asterisk (*) symbol in the keywords is to ensure that the word in question can be found in the search section due to the possibility that it may be included in the literature with different suffixes. In addition, AND/OR/NOT commands were used to access various studies that may emerge. The literature review for meta-analysis was completed on 31 March 2024.

Meta-Analysis Measurements and Statistics

Meta-Analysis Based on Standardised Mean Difference and Effect Size. In this study, effect sizes were calculated based on the difference between the mean values of six variables (age group, gender, parental education, parental attitude, parental employment status, and social support).

In the literature, the standardised mean difference value is evaluated through Cohen’s d value. If there is no information on these values in the studies, standardised effect sizes will be calculated over other data (e.g. mean, standard deviation, etc.). The ranges determined for the interpretation of Cohen’s d values are as follows (26,27):

- 0.20 - 0.49 = small
- 0.50 - 0.79 = medium
- above 0.80 = large

Evaluation of Heterogeneous Distribution of Effect Size. Researchers have developed two different models for the heterogeneous distribution of the effect size of a meta-analysis: Fixed Effects Model and Random Effects Model (28,29). Within the scope of this research, the Random Effects Model was preferred because the heterogeneity level of the studies to be found according to the research question in question is high. The overall effect size to be found within the scope of the research will be obtained from the averages of different effect sizes in the studies included in the research. Therefore, it is thought that these differences will lead to more inclusive results, since it will not act on a homogenous group as in the Fixed Effects Model.

In order to examine the heterogeneous distribution of the studies included in the study, the significance of the Cochrane Q statistic was first examined; the significance of the value indicates the presence of heterogeneity. In meta-analysis, significance is preferred as $p < .1$ for this stage (27). Another value to be examined is Kendall’s Tau2 value; a value greater than 1 indicates the presence of heterogeneity. Another heterogeneity test is the I2 statistic; while the first two values indicate the significance of

Table 2. Keywords and databases used in the study	
Keywords	• Bullying, bully • Adolescent, adolescence*, adolescencey • Risk factors*, protective factors, risk, protect • AND / OR / NOT
Databases	• PsycINFO • Google Scholar • ULAKBIM • YÖKTEZ • Web of Science

heterogeneity, the I² value indicates the level of heterogeneity.

According to the I² statistic;

- If between 0% and 25%, heterogeneity is very low,
- Between 25% and 50%, heterogeneity is low,
- Moderate heterogeneity between 50% and 75%,
- If it is 75% and above, it can be said that heterogeneity is high (27).

Finally, forest plot is utilised to visually evaluate heterogeneity. According to the forest plot, each square shows the effect size of the research included in the study, and the horizontal lines on it show the confidence interval. The fact that the squares are on the vertical line expressing the mean effect size indicates that heterogeneity is low (28,29).

Publication Bias. The calculation of effect size and heterogeneous distribution in a meta-analysis study is not sufficient to evaluate the quality of the data set of the study. In general, the fact that similar results in publications are included in the analysis causes the effect size to be biased. The number of fail safe N, which expresses the number of unpublished studies required for the effect size value to become insignificant, is one of the important points of publication bias. The risk of publication bias decreases as the fail-safe number increases, that is, as the number of studies that would render the effect size insignificant increases. In this study, both Orwin and Rosenthal error protection numbers will be examined. The minimum criterion for the error protection number is $5k + 10$ (k =number of studies).

Process: Flow List (PRISMA)

When the literature is examined, a number of checklists have been created in order for the research to proceed without any deficiencies according to the inclusion and exclusion criteria in meta-analysis studies. One of the current and widely used lists is PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) (30). The purpose of the PRISMA Statement is to provide an objective assessment of the flow of meta-analysis research. The reason why each research in the data set collected within the scope of the study was included or excluded from the study is shown in the PRISMA flow chart. Again,

as a result of the PRISMA Statement, the protocols and findings of each study included in the meta-analysis are examined in a specific system.

Data Analysis: R and R Studio

There are different software programmes for calculating the overall effect size for meta-analysis; in this study, R and R Studio developed by R Development Core Team (2010) was used. The difference of R and R Studio from other software is that it is open source and the codes of the research question are shared online for free. The R v4.2 packages to be used in the research are metaphor, effsize and mods.

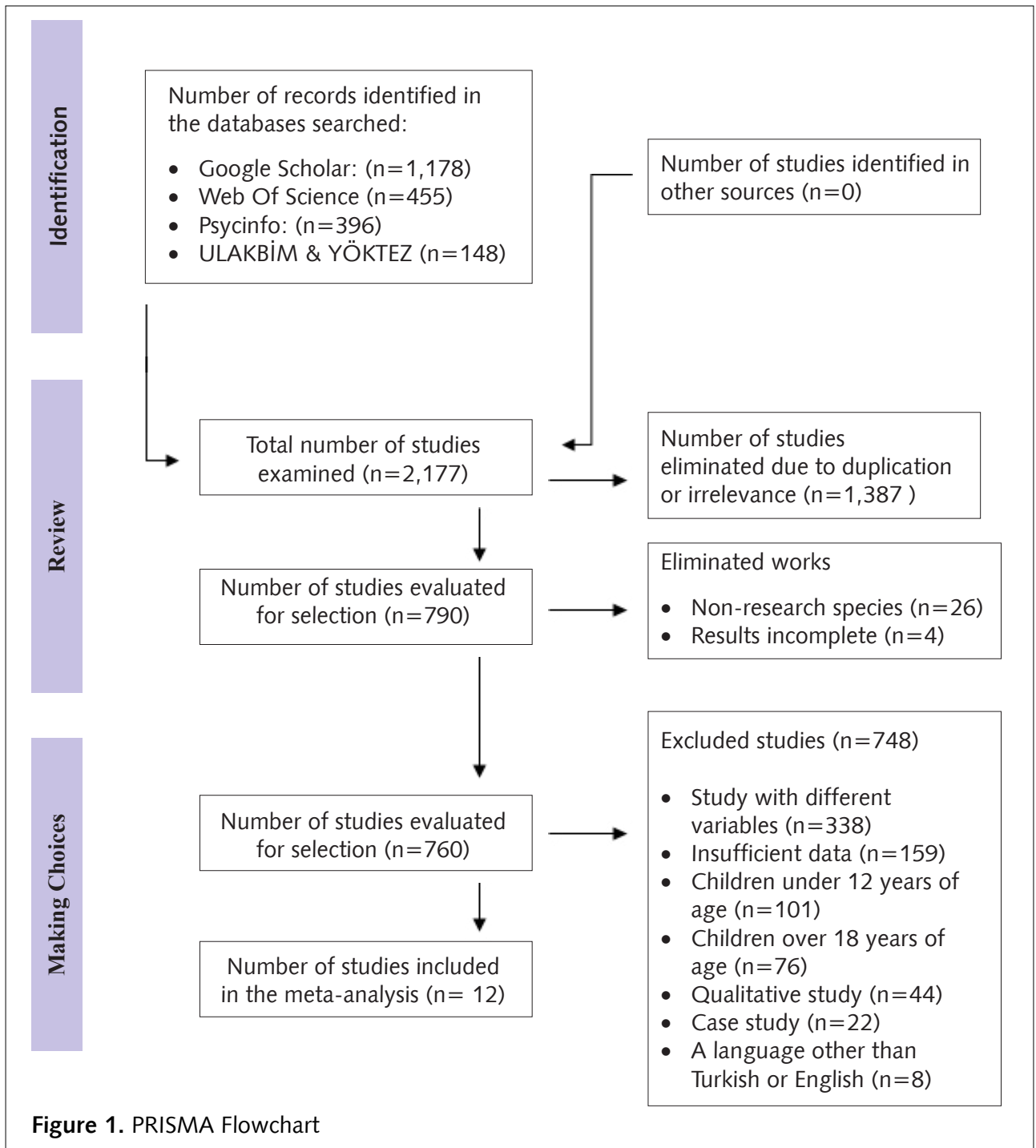
Findings

Systematic Review Results

In total, there were 4 studies for gender comparison, 4 studies for comparison of parental attitudes and 4 studies for social support in 12 studies. A total of 19,948 bullied adolescents were studied in all studies. In total, there were 10,293 (51.6%) female participants and 9,655 male participants in the studies. Data were collected from countries with very different cultures such as Turkey, the United States, China, Spain and India. When the existing data are analysed, 49.1% of the participants' families have democratic parental attitudes, while 50.8% have non-democratic parental attitudes. While 38.9% of the families of the participants had a profession, it was found out that the parents of the remaining part did not work in any job.

Meta-Analysis Results

As a result of the literature review, the PRISMA flow chart is shown in Figure 1. In the first stage of the research, a total of 2,177 records related to the titles were reached. After the title and abstract screening, 1,387 studies were eliminated because they were found again from similar sources or were not suitable in terms of content. Of the remaining 790 studies, 30 studies were not included in the study because they were inconclusive or not suitable in terms of publication type (e.g., paper, book chapter). As a result, the remaining 760 studies were analysed in depth and were not included in the analysis for the following reasons: 338 studies examined different variables, 159 studies had insufficient data set, 101 studies had children under the age of 12, 76 studies had participants aged 18 and over, 44 qualitative studies, 22 case studies, 8 studies were written in



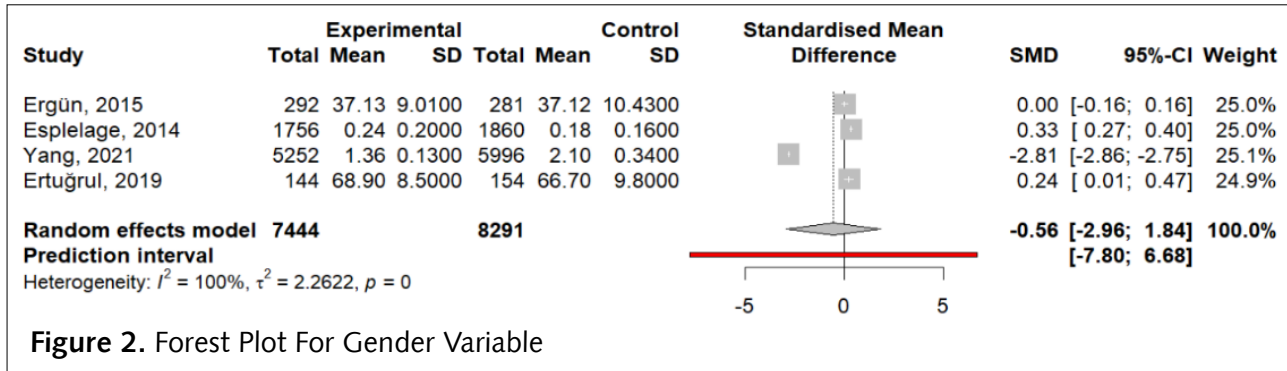
a language other than Turkish and English. As a result, a meta-analysis study was conducted with 12 studies in total (31-42).

Effect Size Results

Gender. According to the effect size calculation made to determine the difference in peer bullying in terms of male and female participants, a moderate but not statistically significant effect size was found in terms of gender groups (Cohen's $d = -.56$). Therefore, it is seen

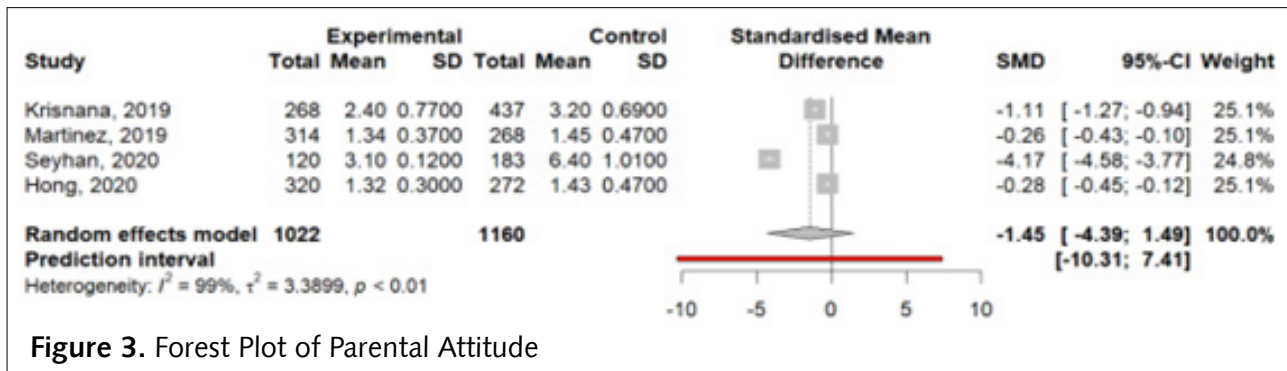
that there is no difference in terms of gender among adolescents who are bullied, and this is not found to be a risk or protective factor. As a result of the analyses conducted to test the heterogeneity of the information in question, a high level of heterogeneity was found for gender ($Q = 5943.40$, $p < .001$, $I^2 = 99.9\%$) and Kendall's Tau2 value was found to be 2.26. All values indicate that heterogeneity was achieved (Table 3 and Figure 2).

Table 3. Effect Size Analysis For Gender									
	Number of Participants		Effect Size Ratios			Heterogeneity			
	K	n	Cohen's d	95% CI	p	Q	p	I ²	τ ²
Gender	4	15735	-0.56	[-2.95;1.83]	0.51	5943.40	<.001	99.9	2.26
*K = number of studies									



Parental Attitude. According to the effect size calculation made to determine the difference of peer bullying in terms of parental attitudes, parental attitudes were found to have a high but not significant effect size (Cohen's $d = -1.45$). Therefore, it was determined that the attitudes of the parents of the adolescents who were bullied were not seen as a risk or protective factor. Nevertheless, when the mean difference was examined, results were found in favour of the democratic parental attitude; children with democratic parental attitudes had a lower risk of being bullied, although not statistically significant. As a result of the analyses conducted to test the heterogeneity of this information, a high level of heterogeneity was found for parental attitude ($Q = 357.36$, $p < .001$, $I^2 = 99\%$) and Kendall's Tau2 value was found to be 3.38. All values indicate that heterogeneity was achieved (Table 4 and Figure 3).

Table 4. Effect Size Analysis For Parental Attitude									
	Number of Participants		Effect Size Ratios			Heterogeneity			
	K	n	Cohen's d	95% CI	p	Q	p	I ²	τ ²
Parental Attitude	4	2182	-1.45	[-4.39;1.49]	0.21	357.37	<.001	99	3.38
*K = number of studies									



Social Support. According to the effect size calculation made to determine the difference of peer bullying in terms of social support received by children, social support was found to have a high and statistically significant effect size (Cohen's $d=4.13$). Therefore, children who receive social support are less likely to be bullied, and in this case, social support is seen as a protective factor. As a result of the analyses conducted to test the heterogeneity of this information, a high level of heterogeneity was found for social support ($Q=143.61$, $p<0.001$, $I^2=97.9\%$) and Kendall's Tau2 value was found to be 3.02. All values indicate that heterogeneity was achieved (Table 5 and Figure 4).

Broadcast Bias Results. Information on the error protection numbers for publication bias assessment can be seen in Table 6. The results of all studies show that the error protection numbers fulfill the criteria that examined the

robustness of the results. On the other hand, the results of Begg's rank correlation test and Egger's regression test also show that publication bias does not exist (Table 6).

Discussion

The aim of this study is to reach a common conclusion from the researches conducted in the last decade for the evaluation of the protective and risk factors of adolescents who are bullied by peer bullying.

Main Results

The results of the research showed that the social support perceived by adolescents is a protective factor, while authoritarian parental attitude is a risk factor. No significant results were found in terms of gender (31-42).

Within the scope of the research, firstly, it was evaluated whether the gender of the participants made a difference in terms of being bullied.

Table 5. Effect Size Analyses For Social Support

	Number of Participants		Effect Size Ratios			Heterogeneity			
	K	n	Cohen's d	95% CI	p	Q	p	I^2	τ^2
Social Support	4	2031	4.13	[1.33;6.93]	0.01	143.61	0.001	97.9	3.02

*K = number of studies

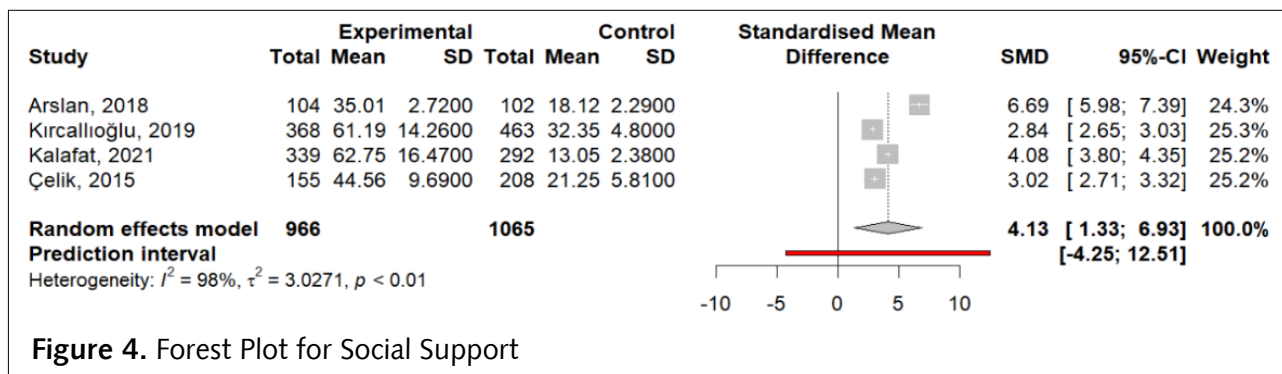


Figure 4. Forest Plot for Social Support

Table 6. Publication Bias on Peer Bullying

Variable	Number of Fault Protection		N Criteria (5K ¹ +10)	Begg Test (Kendall's tau)	p	Egger Test	p
	Rosenthal	Orwin					
Gender	145	116	30	0.28	0.04	t(2)=1.27	0.45
Parental Attitude	167	129	30	0.38	0.03	t(2)=1.19	0.15
Social Support	123	102	30	0.26	0.02	t(2)=4.25	0.52

Note: K= number of studies

The results of the study show that gender does not have any difference in peer bullying in adolescents and these results are parallel with other studies in the literature. In the study by Köksal Akyol and Bilbay (2018) on adolescents' involvement in peer bullying and exposure to peer bullying, it was found that, like the current study, gender did not have any effect (43). In another study conducted by Craig et al. (2020), in parallel with the findings of the current study, no difference was found in terms of being bullied in male and female groups (44). While boys were more likely to be subjected to physical violence, girls were more likely to be subjected to verbal violence. Within gender groups, the level of bullying of boys and girls varies according to age; however, in general, both boys and girls stated that they were bullied at similar levels. Bullying has become a problem faced by many children and adolescents today. Since many children and adolescents encounter this issue today, gender does not create a significant difference in the situation. It is believed that future studies on gender should focus on how the types of bullying vary by gender, rather than taking a more general approach to peer bullying, as this might yield different results.

The results of the study show that the risk of peer bullying in children of parents with democratic attitudes is less. This research result, which is parallel to literature, reveals once again how important the family attitude is for the child to be bullied (24,40,45). A child takes his/her first steps in the family in order to exist in society. The quality of communication that family members establish with each other, their reactions in case of any problem, their motivation to solve problems and their ability to act together minimise the relationship of adolescents with violence. According to Yelboğa and Koçak (2018), democratic families' rational approach to events, giving children a voice within the family, and raising children with the awareness that they are individuals, support the development of healthier decision-making, attitudes, and behaviors in children (46). In contrast, children raised in an excessively permissive or rejecting environment may struggle to make their own decisions and may not exhibit healthy behaviors due to the extreme permissiveness or strict discipline within the family. Such factors highlight the contributions

of a democratic family structure to the child, especially in addressing issues like peer bullying.

Finally, it was found that there was a significant relationship between the level of social support perceived by adolescents and peer bullying. In line with the findings of the current study, Gür et al. (2020) found in their research on peer bullying and family relationships that adolescents who do not receive emotional support from their families are more likely to engage in and be subjected to peer bullying (10). In the study conducted by Ringdal et al. in 2020, it was found that social support from family and friends was associated with not being bullied (47). When considering social support in terms of material resources, United Nations International Children's Emergency Fund's (UNICEF) 2015 report indicates that teachers have noted that children living in lower socioeconomic areas, who face resource shortages for basic needs such as school and nutrition, are more likely to be bullies. Social support is not limited to family and friends (48). Children and adolescents can also access social support when they have access to material resources (e.g., engaging in a hobby, participating in cultural activities, etc.). However, as mentioned in the report, children with socioeconomic disadvantages who also lack access to social support have an increased likelihood of engaging in peer bullying. Peer bullying should not only be examined from the perspective of the victim, but the role of the bully should also be analyzed.

Typical characteristics of children and adolescents exposed to bullying include feeling helpless, thinking that they will never reach a solution and thinking that they are powerless. However, with the support they receive from their environment, they may feel safe and their self-confidence may increase. As a result, social support leads to a decrease in the negative effects of bullying.

In the meta-analysis evaluation conducted with the Random Effects Model, the publication bias and heterogeneity test resulted in favour of the study. This shows that the researcher reviewed all the publications in the literature without publication bias. On the other hand, it is noteworthy that the social support perceived by the participants was in a healing dimension, and the authoritarian parental attitude was in a damaging dimension.

Limitations

It can be said that the research has some limitations. The first of these is due to the limited number of studies within the scope of the research criteria. This caused the significance of effect sizes to be low. It is recommended to increase the number of studies to be included in the meta-analysis in future studies. Another limitation of the study is related to generalizability. Generalizability is an important result in meta-analysis and generalization was attempted in this study. However, individual errors, if any, of the studies were ignored. It is recommended that researchers on the subject pay attention to this issue. Another limitation of the study is that the study was conducted using keywords such as "bully, bullying, peer bullying, protective factors, risk factors". In future studies, keywords such as "peer victimization, peer rejection, school violence" can be included in the research process and a more comprehensive examination can be conducted.

Conclusion

Peer bullying is a very comprehensive difficulty that children and adolescents face at every developmental level, especially in their school life, which can affect their future lives and contains different dynamics. Although there are many risk and protective factors affecting peer bullying, especially during adolescence, its effects are seen at different levels. During adolescence, while adolescents move away from their parents, they can get closer to their peers. At this point, the attitudes of parents and their relationships with adolescents are very important. Although the examinations have shown that parental attitudes do not affect the risk and protective factors of bullying experienced by adolescents, when examining the average differences, results have been found in favor of democratic parenting attitudes. Children with democratic parenting attitudes, while not significantly, have a lower risk of experiencing bullying. This situation highlights the importance of raising awareness within families about child development and the need for families to understand the developmental characteristics of their children. In this context, training programs that raise awareness about bullying and create awareness among families can be implemented, and intervention plans can be developed. Projects

related to peer bullying targeting adolescents, teachers, and families can be developed in collaboration with the relevant ministry. The current study has highlighted the importance of social support. Teachers can provide social support for adolescents. Therefore, including teachers in the planning of training, projects, and intervention plans is crucial for strengthening adolescents' social support. However, in this study, the school environment and the attitude of teachers in the bullying process were not analysed. For future research, the importance of social support, especially from teachers, should be emphasized in bullying education in the school environment. In peer bullying trainings to be conducted for families, information should be conveyed that the multidimensional structure of the family can trigger bullying. It should not be forgotten that domestic violence, unbalanced authoritarianism or neglectful ignorance may cause some adaptation problems in children. In this direction, informative seminars can be organised by reaching out to families. It should not be forgotten that school, child and family are three important elements in this context, and these three elements should be included in every programme.

Contact: Nurten Elkin
E-Mail: nelkin@gelisim.edu.tr

References

1. Kar S, Choudhury A, Singh A. Understanding normal development of adolescent sexuality: A bumpy ride. *Journal of Human Reproductive Sciences* 2015;8(2):70. <https://doi.org/10.4103/0974-1208.158594>
2. Fleary S, Joseph P, Pappagianopoulos J. Adolescent health literacy and health behaviors: A systematic review. *Journal of Adolescence* 2017;62(1):116-27. <https://doi.org/10.1016/j.adolescence.2017.11.010>
3. Saul R. Adolescence and clocktime: Two modern concepts intertwined, revisited, reconsidered. *Global Studies of Childhood* 2016;(2):234-45. <https://doi.org/10.1177/2043610616647643>
4. Kulaksızoğlu A. *Ergenlik psikolojisi*. İstanbul: Remzi Kitabevi; 2017

5. Olweus D. Familial and temperamental determinants of aggressive behavior in adolescent boys: A causal analysis. *Developmental Psychology* 1980;16(6):644–60. <https://doi.org/10.1037/0012-1649.16.6.644>
6. Olweus D. Bullies on the playground: The role of victimization. In C. H. Hart (Ed.), *Children on playgrounds: Research perspectives and applications* (pp. 85–128). State University of New York Press; 1993
7. Olweus D. *Aggression in the schools: Bullies and whipping boys*. Washington, D.C. Hemisphere (Wiley); 1978
8. Farrington D P, Gaffney H, Lösel F, Ttofi MM. Systematic reviews of the effectiveness of developmental prevention programs in reducing delinquency, aggression, and bullying. *Aggression and Violent Behavior* 2017;33:91–106. <https://doi.org/10.1016/j.avb.2016.11.003>
9. American Psychology Association (APA). *Bullying*. Retrieved August, 17, 2022 Available at: <https://www.apa.org/topics/bullying>
10. Gür N, Eray Ş, Makinecioğlu I, Siğirli D, Vural AP. Akran zorbalığı ile aile duygu dışı vurumu ve psikopatoloji arasındaki ilişki. *Anadolu Psikiyatri Dergisi*, 2020;21(1):77-86.
11. UNESCO. International day against violence and bullying at school including cyberbullying. 2022. Available at: <https://www.unesco.org/en/articles/international-day-against-violence-and-bullying-school-including-cyberbullying>
12. Karakuş Şahbaz Y. Ortaokul öğrencilerinde akran zorbalığı: Adana İli Yüreğir İlçesi pilot çalışma. (Yüksek Lisans Tezi). Çağ Üniversitesi; 2019
13. Polat F, Sohbet R. Ortaöğretim öğrencilerinde akran zorbalığı. *Kahramanmaraş Sütçü İmam Üniversitesi Tıp Fakültesi Dergisi* 2020;15(2):41-51.
14. Karataş M, Ünalmiş A. İlköğretim 6, 7 ve 8. sınıf öğrencileri arasında yaşanan akran zorbalığının farklı değişkenler açısından incelenmesi, Tokat Örneği. *Avrasya Sosyal ve Ekonomi Araştırmaları Dergisi* 2019;6(3):381-96.
15. Gökçaya F, Sütçü ST. Akran zorbalığının ortaokul öğrencileri arasındaki yaygınlığının incelenmesi. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi* 2020;35(1):40-54.
16. Ahmed B, Al-Hadithi T. Bullying among school adolescents in Erbil city of Iraq. *Zanco Journal of Medical Sciences*, 2019;23(2):194-205. <https://doi.org/10.15218/zjms.2019.025>
17. Chen M, Gao S, Jin Y. Does teachers' involvement affect the extent of school bullying? *Atlantis Press*, 2022;870-5. <https://doi.org/10.2991/assehr.k.220131.158>
18. Karakuş Ö, Altinel B, Uyaroglu A. The relationship between peer bullying, loneliness, and social support in refugee adolescents. *Journal of Child and Adolescent Psychiatric Nursing* 2023;36(3):228-36. <https://doi.org/10.1111/jcap.12417>
19. Ulfah M, Gustina E. Bullying behavior among students. *International Journal of Evaluation and Research in Education* 2020;9(3):644. <https://doi.org/10.11591/ijere.v9i3.20437>
20. Pazhouhi, S. Online and offline bullying/harassment and perceived racial/ethnic discrimination among Iranian adolescents. *Canadian Journal of School Psychology* 2023;38(4):333-48. <https://doi.org/10.1177/08295735231188008>
21. Romera EM, Ortega-Ruiz R, Rodríguez-Barbero S, Falla D. How do you think the victims of bullying feel? A study of moral emotions in primary school. *Frontiers in Psychology* 2019;10:1753. <https://doi.org/10.3389/fpsyg.2019.01753>
22. Valdebenito S, Ttofi M, Eisner M. Prevalence rates of drug use among school bullies and victims: A systematic review and meta-analysis of cross-sectional studies. *Aggression and Violent Behavior* 2015;23:137–46. <https://doi.org/10.1016/j.avb.2015.05.004>
23. Zych I, Farrington DP, Ttofi MM. Protective factors against bullying and cyberbullying: A systematic review of meta-analyses. *Aggression and Violent Behavior* 2019;45:4–19. <https://doi.org/10.1016/j.avb.2018.06.008>
24. Gómez-Ortiz O, Apolinario C, Romera EM, Ortega-Ruiz R. The role of family in bullying and cyberbullying involvement: Examining a new typology of parental education management based on adolescents' view of their parents. *Social Sciences* 2019;8(1):25. <https://doi.org/10.3390/socsci8010025>
25. Bakioğlu A, Özcan Ş. Meta-analiz. İstanbul. Nobel Yayıncılık; 2022
26. Cohen J. *Statistical Power Analysis For The*

- Behavioral Sciences (Rev. Ed.). New York: Academic Press; 1977
27. Lipsey MW, Wilson DB. Practical Meta-Analysis. SAGE Publications, Inc; 2001
28. Hunter JE, Schmidt FL. Methods of meta-analysis: Correcting error and bias in research findings. SAGE Publications, Inc; 2004
29. Hedges L, Olkin I. Statistical methods for meta-analysis. London: Academic Press; 1985
30. Begg CB, Mazumdar M. Operating characteristics of a rank correlation test for publication bias. *Biometrics* 1994;1088-101.
31. Duval S, Tweedie R. Trim and fill: A simple funnel-plot-based method of testing and adjusting for publication bias in meta-analysis. *Biometrics* 2000;56(2):455-63. <https://doi.org/10.1111/j.0006-341x.2000.00455.x>
32. Karaçam Z. Sistematik derleme metodolojisi: Sistematik derleme hazırlamak için bir rehber. *Dokuz Eylül Üniversitesi Hemşirelik Fakültesi Elektronik Dergisi* 2013;6(1):26-33.
33. Arslan E. Algılanan ebeveyn tutumu, algılanan sosyal destek ve benlik saygısının ergenlerin akran zorba davranış eğilimi ile ilişkisi. [The Relationship Between Perceived Parental Attitude, Perceived Social Support And Self-Esteem And Adolescents' Tendency Towards Peer Bullying Behaviour. [Yayınlanmamış Yüksek Lisans Tezi]]. İstanbul Arel Üniversitesi; 2018.
34. Çelik A. Lise öğrencilerinin siber zorbalık düzeyleri ile algılanan sosyal destek düzeyleri arasındaki ilişkinin bazı değişkenler açısından incelenmesi. [Examining The Relationship Between High School Students' Cyberbullying Levels And Perceived Social Support Levels In Terms Of Some Variables]. [Yayınlanmamış Yüksek Lisans Tezi]. Üsküdar Üniversitesi; 2015.
35. Ergün N. Erken ergenlerde okul, aile ve demografik değişkenlere göre akran zorbalığının incelenmesi. [Investigation Of Peer Bullying In Early Adolescents According To School, Family And Demographic Variables]. [Yayınlanmamış Yüksek Lisans Tezi]. Hacettepe Üniversitesi; 2015.
36. Ertuğrul F, Eker E. Ön ergenlik döneminde zorbalık davranışı ile bazı sosyo-demografik değişkenler arasındaki ilişkinin incelenmesi. *Aydın İnsan ve Toplum Dergisi* 2019;5(2):117-40.
37. Espelage DL, Low SK, Jimerson SR. Understanding school climate, aggression, peer victimization, and bully perpetration: Contemporary science, practice, and policy. *School Psychology Quarterly* 2014;29(3):233-37. <https://doi.org/10.1037/spq0000090>
38. Hong JS, Kim DH, deLara EW, Wei H-S, Prisner A, Alexander NB. Parenting style and bullying and victimization: Comparing foreign-born Asian, U.S.-born Asian, and White American adolescents. *Journal of Family Violence* 2021;36(7):799-811. <https://doi.org/10.1007/s10896-020-00176-y>
39. Kalafat A. Ergen siber zorbalık duyarlılığı ile algılanan sosyal destek ve öznel iyi oluşu artırma stratejileri arasındaki ilişkilerin incelenmesi. [Examining The Relationships Between Adolescent Cyberbullying Susceptibility And Perceived Social Support And Subjective Well-Being Enhancement Strategies]. [Yayınlanmamış Yüksek Lisans Tezi]. İstanbul Sabahattin Zaim Üniversitesi; 2021.
40. Kırçalıoğlu M. Lise öğrencilerinde siber zorbalık duyarlılığının sosyodemografik özellikler, algılanan sosyal destek ve ebeveyn ve akran ilişkileri açısından değerlendirilmesi: Tekirdağ ili Çerkezköy ilçesi örneği. [Evaluation of cyberbullying susceptibility in high school students in terms of sociodemographic characteristics, perceived social support and parent and peer relationships: The case of Çerkezköy district of Tekirdağ province]. [Yayınlanmamış Yüksek Lisans Tezi]. Ankara Üniversitesi; 2019.
41. Krisnana I, Rachmawati PD, Arief YS, Kurnia ID, Nastiti AA, Safitri IFN, Putri ATK. Adolescent characteristics and parenting style as the determinant factors of bullying in Indonesia: A cross-sectional study. *International Journal of Adolescent Medicine and Health* 2019;33(5):10. 1515/ijamh-2019-0019. <https://doi.org/10.1515/ijamh-2019-0019>
42. Martinez I, Murgui S, Garcia OF, Garcia F. Parenting in the digital era: Protective and risk parenting styles for traditional bullying and cyberbullying victimization. *Computers in Human Behavior* 2019;90:84-92. <https://doi.org/10.1016/j.chb.2018.08.036>
43. Seyhan YE. Ortaokul öğrencilerinde algılanan

- ebeveyn tutumlarının akran zorbalık ve mağduriyeti ile sanal zorbalık ve mağduriyet üzerindeki etkisi. [The effect of perceived parental attitudes on peer bullying and victimisation and cyberbullying and victimisation in secondary school students]. [Yayınlanmış Yüksek Lisans Tezi]. Haliç Üniversitesi; 2020.
44. Yang B, Wang B, Sun N, Xu F, Wang L, Chen J, Yu S, Zhang Y, Zhu Y, Dai T, Zhang Q, Sun C. The consequences of cyberbullying and traditional bullying victimization among adolescents: Gender differences in psychological symptoms, self-harm and suicidality. *Psychiatry Research* 2021;306:114219. <https://doi.org/10.1016/j.psychres.2021.114219>
45. Köksal Akyol A, Bilbay A. Ergenlerin akran zorbalığı yapmaları, zorbalığa maruz kalmaları ve empatik eğilimleri arasındaki ilişkinin incelenmesi. *Journal of History Culture and Art Research* 2018;7(2):667-75. <https://doi:http://dx.doi.org/10.7596/taksad.v7i2.1379>
46. Craig W, Boniel-Nissim M, King N, Walsh SD, and et al. Social media use and cyber-bullying: A cross-national analysis of young people in 42 countries. *The Journal of Adolescent Health: Official publication of the Society for Adolescent Medicine* 2020;66(6S):S100–8. <https://doi.org/10.1016/j.jadohealth.2020.03.006>
47. Valdés-Cuervo AA, Alcántar-Nieblas C, Martínez-Ferrer B, Parra-Pérez LG. Relations between restorative parental discipline, family climate, parental support, empathy, shame, and defenders in bullying. *Children and Youth Services Review* 2018;152-9 <https://doi.org/10.1016/j.childyouth.2018.10.015>
48. Yelboğa N, Koçak O. Ergenlerde akran zorbalığını yordayan bazı faktörlerin zorba ve mağdur bireyler açısından değerlendirilmesi. *OPUS International Journal of Society Researches* 2019;13(19):2286-320.
49. Ringdal R, Espnes GA, Eilertsen, MEB, Bjørnsen HN, Moksnes UK. Social support, bullying, school-related stress and mental health in adolescence. *Nordic Psychology* 2020;72(4):313–30. <https://doi.org/10.1080/19012276.2019.1710240>
50. UNICEF. Investigating the prevalence and impact of peer abuse (bullying) on the development of Jamaica's children report, 2015.