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Research Article

Screening of Physical and Emotional Abuse Risk and Protective Factors in a Group of High School Students

Bir Grup Lise Öğrencisinde Fiziksel ve Duygusal İstismar Risk ve Koruyucu Faktörlerinin Taranması

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Abstract: **Objectives:** Child abuse is a multidimensional phenomenon. Thus, planning prevention strategies and risk/protective factors should be obtained in a multilayered manner concerning the individual, family, school, environment, and policies. This study aims to investigate these factors among high school students. **Materials and Methods:** The participants' mean age was 15.69 (Sd = .96) and 53.4% (n=353) of them were female. The Rathus assertiveness inventory and the questionnaire included variables related to demographics, school and neighborhood, risky behaviors, family relationships/lifestyle, risky thinking styles, abuse experience in the immediate environment. **Findings:** The findings showed that 95.5% of the students (n=631) were living with their families and their perceived economic status was moderate/below (51.1%, n=337). In this study, 59 (9.6%) mothers and 104 (16.2%) fathers were university graduates. 397 (60.1%) participants come to the school by public transport and 39.5% (n=261) had no-one to accompany. Having a violent school-mate rate was 40.7% (n=269). Assertiveness did not differ by gender and class. Families' child-rearing practices were harder for the upper-class boys than for the girls; the boys find their families' expectations too much and felt less appreciated. 284 (43%) participants had three or more children who abused emotionally (n=284, 43%) and physically (n=135, 20.4%). **Conclusion:** Class and gender may affect substance use, truancy, neighborhood safety and school violence victimization. When abuse cannot be questioned directly, abuse can be guiding to examine whether students escape from school, whether there are close violent friends and whether they feel friends' support.

Keywords: decision tree, neglect, ecological theory, prevention, child abuse

Öz: **Amaç:** Çocuk istismarı, çok boyutlu bir olgu olduğundan önleme çalışmaları planlanırken, risk ve koruyucu faktörler bireyle, aileyle, okulla, yaşanılan çevreyle ve politikalarla ilgili olmak üzere çok katmanlı biçimde elde edilmelidir. Bu çalışmada amaç, lise öğrencilerinde, istismarla ilişkili bu faktörleri betimlemektir. **Gereç ve Yöntem:** Katılımcıların yaş ortalaması 15.69 (Ss=.96) olup, %53.4'ü (n=353) kızdır. Rathus atılganlık envanterine ilaveten kullanılan anket demografik veriler, okul ve yaşanılan çevre, riskli davranışlar, aile ilişkileri/yaşantı tarzı, istismara açık kılan düşünce yapısı ve yakın çevrede istismar gözlemiyle ilgili sorular içermektedir. **Bulgular:** Öğrencilerin %95.5'i (n=631) ailesiyle birlikte yaşamakta, %51.1'i (n=337) ekonomik durumunu orta/altı olarak nitelendirmektedir. Annelerin %9.6'sı (n=59) ve babaların %16.2 (n=104) üniversite mezunudur. Katılımcıların %60.1'i (n=397) okula toplu taşıma kullanarak geldiğini, %39.5'i (n=261) okula giderken kendisine kimsenin eşlik etmediğini bildirmiştir. Okul arkadaşlarından en az birkaç defa şiddet gördüğünü bildirenlerin oranı %40.7'dir (n=269). Atılganlık cinsiyet ve sınıfa göre farklılaşmamıştır. Ailenin terbiye yöntemleri, üst sınıflardaki erkeklere, kızlara göre daha sert gelmekte, erkekler ailelerinin beklentilerini fazla bulmakta ve daha az takdir edildiklerini hissetmektedirler. Katılımcıların %43'ü (n=284) yakın çevrelerinde duygusal istismara uğrayan çocuk sayısını üç ve daha fazla olarak tahmin etmiştir. Aynı tahmin, fiziksel istismar için %20.4'tür (n=135). **Sonuç:** Sağlığa zarar verici madde kullanımı, okuldan kaçma davranışı, yaşanılan mahallede güvende hissetme durumu, okulda şiddete maruz kalma gibi faktörler sınıf ve cinsiyetten etkilenebilmektedir. İstismarın varlığının doğrudan sorgulanamayacağı durumlarda, katılımcıların fiziksel/duygusal istismara uğrayan çocukların olduğu bir çevrede bulunup bulunmadığını anlamada okuldan kaçma davranışları, şiddet gösteren yakın arkadaşların bulunup bulunmadığı ve kişinin algıladığı arkadaş desteği değişkenlerinin incelenmesi yol gösterici olabilir.

Anahtar kelimeler: karar ağacı, ihmal, ekolojik teori, önleme, çocuk istismarı

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1. Introduction

The emergence of child abuse is associated with many and varying variables. While some of these variables are related to the person's past, other variables may be related to the behaviors of the child during the abuse, cultural characteristics, and parents' perception of the child or certain personality traits of the children (1).

Using the approach of ecological theory, which includes the assessment of risk and protective factors together and in multiple dimensions, may be important in understanding the variables associated with the emergence of child abuse and neglect. The pursuit of this theory requires that the relevant factors be treated in multiple layers. That is, the situation is examined by looking at different levels, such as individual, family (structure/history), peer, school and neighborhood (2, 3). Each of these factors varies within itself and interacts with each other.

When investigating abuse and neglect cases or the possibility of abuse/neglect, there are some advantages in evaluating risk and protective factors in each of the specified layers. First of all, identifying these factors in early stages in development, such as adolescence, narrows the focus of the studies that aimed to determine the risk factors which have causal effects in the occurrence of abuse. Thus, layers, risk and protection concepts provide focus. It becomes easier to identify other factors that interact with these factors. In the ecological approach, as summarized by Saraw (4), the relevant assessment can be made at four levels: the first level microsystem includes the immediate environment surrounding the person (e.g., family members, peers). The second level, mesosystem, includes the relationships within the microsystem (such as the family support network). The third layer, egzosystem, describes structures, such as neighborhood and a school environment, which may not directly affect the person but still have influence. The macrosystem refers to the much wider social and political norm and judicial structure in which all systems are housed.

This multi-layered assessment can reveal how the adolescent is shaped not only by his personal characteristics but also by his environment, and in this sense, how he is strengthened or how he becomes vulnerable. One advantage of multi-faceted evaluation is that it helps to identify the accumulated risk, which is related to child abuse strongly (5, 6).

The present study aims to describe some risk and protective factors that may be associated with abuse in high school students in the Maltepe district of Istanbul at the levels of individual, micro, meso and ecosystems.

2. Methods

2.1 Participants

The research universe in this study consisted of Anatolian High Schools and Anatolian Vocational Technical High Schools in Maltepe District. The school type was also limited to this group not to act as a confounding factor and to investigate the risk and protective factors in a homogeneous population. Eleven of all these high schools were selected with the convenience sampling method. In this study, the research population was 9193 people, and the sample size was determined with the condition of 99% confidence level and 5% confidence interval was 621 people.

The average age of the participants in this study was15.69 (Sd = .96). 53.4% (n=353) of 661 volunteer high school students were girls. The distribution of students by class was 46.6% (n=308) for the 9th grade, 32.7% (n=216) for the 10th grade and 20.7% (n=137) for the 11th grade.

2.2. Questionnaire, Procedures and Permissions

In this study, a questionnaire with 63 questions, written by the first author in this research article, was used to evaluate risk and protective factors. The survey was based on observations and experiences, as well as studies on risk and protective factors related to abuse (7-10). The survey contained the following sections: demographics (20 questions), school and living environment (8 questions), risky behaviors (4 questions), family relationships (6 questions), family lifestyle (8 questions) and abuse observation in the immediate environment (2 questions). In addition, questions were asked on some issues that were the focus of prevention work (14 questions). These issues were as follows: owning your own body, detecting the difference between good and bad touch, knowledge of special areas of the body, distinguishing between the foreign and familiar, and secrets that may be dangerous to hide (11).

The questionnaire underwent changes in the process of obtaining the permission of the Provincial Directorate of National Education of the Ministry of National Education (MoNE). MoNE asked that questions about behaviors that put health at risk be asked in more general terms and not to mention the names of the substances in the questions.

Another demand was that students should not be asked directly about their abuse experience. Therefore, the relevant questions asked as "Have you ever used a

substance harmful to health?", "When you think about the children in your immediate environment, how many of these people do you think, in their families, often experience things like offensive words, humiliation, and excessive criticism?", and "When you think about the children in your neighborhood, how many of them do you think are exposed to physically harmful behaviors within their families?". Questions about abuse are sensitive questions. The answers to such questions include content that individuals may want to keep confidential and may not want to be exposed to the harmful effects of remembering the abusive experience. Participants do not want to be the subject of discrimination or judgment due to their answers (12). Questions involving the observations about the person's environment indirectly about the traumatic life are informative about the way the subject of the research is seen in the environment where the person lives.

The 30-question Rathus Assertiveness Inventory was used to assess assertiveness to describe students' strengths. The validity and reliability study of the scale were carried out by Voltan (13). Scores vary between -90 and +90. Minus points indicate unassertiveness, plus points indicate assertiveness.

Ethical Declaration

This study was conducted after obtaining approval from the Marmara University Medical School Clinical Research Ethics Committee. The Ministry of National Education (MoNE) also approved the data collection in 2015-2016. In practice, the Helsinki Declaration rules were followed to conduct this study.

A research plan was prepared by contacting the principals, deputy principals, or guidance counselors of the relevant schools a few days before the survey was distributed. On the agreed day, the questionnaires were distributed to the students during the lesson, and they were asked to fill them out.

2.3. Analyzes

In the evaluation of the data, the average was taken and the frequency and percentage were calculated.

The data distribution was evaluated with methods, such as Kolmogorov-Smirnov test, and histogram, density graph, Mann-Whitney U test, were used for binary group (gender) comparisons and Kruskal-Wallis test for triple group (class) comparisons. Answers to Likert-type questions were given in the tables as percentages, but comparisons were made by accepting these variables as continuous variables (14). In the findings part, the data belonging to the whole group were firstly described, and

then, the data were examined whether gender made any difference for each class. In the case where gender made a difference, the results of the relevant variable were shared.

Finally, a decision tree model based on the CRT (Classification and Regression Tree) algorithm established to reveal factors related to the presence of physical abuse in the immediate environment (nobody or one-two people and more than two people) and to obtain the severity of the factors (15).

Since abuse is a multi-dimensional concept, abuse is influenced by various variables. In the questionnaire, the explanatory variables that significantly affect the dependent variable (how many people have been abused in its close circle) were determined by the chi-square test. By comparing the available data with the literature information, it is determined which variables would be added to the model. Accordingly, in the model for the dependent variable, whether there was a child exposed to abuse in the close circle, the explanatory variables were whether the friends were close/supportive, whether there was a feeling of trust in the neighborhood where they lived, whether a close friend shows violence, perceived economic situation, escaping from school, and gender.

All explanatory variables were coded as binary classes, risky and non-risky situations, and 1 was for the situation that would pose a risk. For example, code 0 was used if the participant never escaped from school and 1 if the participant escaped.

In order for the predicted tree to be more generalizable, it was pruned by taking a maximum depth of 5 as the growth criteria of the tree. In addition, the tree was grown until the explanatory variables decreased the homogeneity measured by the Gini coefficient by less than 0.0001. Due to the second criterion, the tree obtained was a 3-depth tree (see Figure 1 and Figure 3). The correct classification rate of the model and additional 10-fold cross validity values were given in the relevant section in the findings section (Table 11, Table 13).

In all analyzes, p <0.05 value was considered statistically significant. IBM SPSS 22.0 was used in the analysis.

3. Findings

In addition to the data in Table 1, 95.5% of the students (n=631) were living with their family, and 51.1% (n=337) described their economic status as medium and lower. An average of 4.5 (Sd = 1.23) people lived at home. 9.6% (n=59) of the mothers and 16.2% (n=104) of the fathers were university graduates. Almost all of the parents were married (92.1%, n=605).

Table 1. Demographic information of the participants

	yes		no		
	n	%	n	%	N*
Failed at a class	38	5.7	623	94.3	661
Health problem	93	14.1	567	85.9	661
Mother alive	658	99.5	3	.5	661
Father alive	650	98.3	11	1.7	661
Have a private room at home	425	64.5	234	35.5	659
Mother is working	235	35.6	426	64.4	661
Father is working	600	91.3	57	8.7	657
Physical or speech handicap	103	15.6	558	84.4	661

* The numbers show the total number of participants who answered that question.

One-hundred-ninety-three (29.4%) participants (n=193) reported that if their family had difficulties in life, there was no one to support them or they were not sure whether they were. %22.5 (n=148) described their health as moderate and poor.

3.1. School, Immediate Environment, Some Risk Behaviors and Assertiveness Scores

Table 2 summarizes how the participants feel in their neighborhood and school.

In this study, 60.1% (n=397) of the participants reported that they came to the school using public transport, and 39.5% (n=261) reported that nobody accompanied them on their way to school.

The rate of the participants who reported that they experienced physical or emotional harmful behavior from their schoolmates a few times or more is 40.7% (n=269). It is 289 people (44.1%) who stated that there was a place where they could play safely in the neighborhood where their home is located.

Considering the data in Table 2 as a continuous variable, it was found that none of them showed normal distribution (*p*=.000). Therefore, non-parametric Mann-Whitney U test was used for each comparison by gender.

Accordingly, for the 10th grade only, the feeling of security in the neighborhood (*median*=3 for girls, 4 = for boys, *U*= 4055.00, *p*= .000, *r* = -. 25) and for the sense of belonging to school (median=3 for girls, boys for = 4, *U*= 4574.00, *p*= .011, *r*= -. 17) gender difference appeared: Both feelings were lower for girls than for boys.

The way of getting to school also showed a differentiation related to gender only in 9th grades (X^2(3, N=208)=14.80, *p*=.001) (Table 3).

Table 3. Distribution of 9th grade students' way to school by gender

	School bus		Public transport		Private car		On foot		N	
	n	%	n	%	n	%	n	%	n	%
Girls	48	33.3	77	53.5	4	2.8	15	10.4	144	100
Boys	25	15.2	104	63.4	9	5.5	26	15.9	164	100

Being exposed to physical/emotional violence from a school friend showed a different gender distribution for grade 10 only. (X^2(2, N=216)=5.49, *p*=.031) (Table 4).

Table 4. Distribution of emotional/physical violence status of 10th grade from schoolmates by gender

	No		Several times		Numerous		N	
	n	%	n	%	n	%	n	%
Girls	79	63.2	38	30.4	8	6.4	125	100
Boys	43	47.3	39	42.9	9	9.9	91	100

Half of the participants (49.9%, n=330) had some or more difficulties in complying with the school rules. Participants mostly (80.2%, n=529) had used harmful substances at least a few times.

At least one school escape rate was 32.4% (n=214), and 240 participants (36.4%) reported that they had at least one close friend who shows violent behaviors.

Only in 9th grades, there was a relationship between having difficulty in complying with school rules and gender (X^2(2, N=308)=8.06, *p*=.018) (Table 5).

Table 2. Variables related to the school and its immediate surroundings of the participants

	No		Somewhat		Moderate		Much		Very much		N
	n	%	n	%	n	%	n	%	n	%	
Feeling safe in the neighborhood	28	4.2	61	9.2	180	27.3	212	32.1	179	27.1	660
Feeling belonging to the school	55	8.3	90	13.6	212	32.1	202	30.6	102	15.4	661
Seeing teachers close & supportive	29	4.4	105	15.9	253	38.3	209	31.6	65	9.8	661
Seeing schoolmates close & supportive	20	3.0	46	7.0	159	24.1	257	38.9	179	27.1	661

Table 5. The distribution of the difficulty in adaptation to school rules in the 9th grade by gender							
	Very difficult		Somewhat difficult		Not difficult		
	n	%	n	%	n	%	N	%
Girls	14	9.7	67	46.5	63	43.8	144	100
Boys	8	4.9	59	36.0	97	59.1	164	100

Only in the 11th grades, the distribution of using health hazardous substance use (X^2(2, N=137)=10.42, p=.001) and escaping from school significantly varied by gender (Table 6).

Table 6. Use of the harmful substances by gender and absence from school in 11th grades							
Escaping from school							
	No		Several times		Numerous		N
	n	%	n	%	n	%	n	%
Girls	14	16.7	69	82.1	1	1.2	84	100
Boys	22	41.5	31	58.5	0	0	53	100
Escaping from school							
Girls	54	64.3	22	26.2	8	9.5	84	100
Boys	18	34	18	34	17	32.1	53	100

Kolmogorov-Smirnov test showed that scores from Rathus Assertiveness inventory were not normally distributed (D=610)=0.986, p=.011). Mann-Whitney U Test did not indicate a gender difference for assertiveness score (median for girls=0.00 (min=-81, max=56), for boys=-2.00 (min=-90, max=43), p=.266). The change that the assertiveness score can show by classes was evaluated using the Kruskal-Wallis test, and no difference was found (median for 9th grades=-2.00 (min=-90, max=44), median for 10th grades=3.00 (min=-71, max=56), median for 11th grades=-1.00 (min=-54, max=44), p=.052).

3.2. Family Relationships and Family Life

The responses of the participants, including their feelings and thoughts about family members, can be seen in Table 7.

The data in Table 7 were taken as a continuous variable, and we investigated whether there was a gender difference in each class. The sense of being understood in the family was lower for girls than boys both in 9th grades (median for girls=3, for boys=4, U=9504.00, p=.003, r=-.16) and in the 10th grades (median for girls=3, for boys=3, U=4736.00, p=.037, r=-.14).

The data in Table 8 were taken as continuous variables, and gender differences in each class were examined. Accordingly, it was observed that boys in the 9th grade perceived their family lives more regularly than girls (median for girls=3, for boys=5, U=9116.50, p=.000, r=-.20). It was observed that the men in the 10th (median for girls=2, for boys=3, U=4695.50, p=.024, r=-.15) and 11th grades (median for girls=2, for boys=3, T=1430.5, p=.000, r=-30) found more expectations from their families than the girls.

In the 11th grades, boys thought that they were less appreciated than girls (median for girls=4, for boys=3, U=1742.5, p=.026, r=-.18) and it was found that the upbringing method of parents was harsh on them in comparison with girls (median for girls=1, for boys=2, U=1808.00, p=.044, r=-.17).

Table 7. Variables related to the family relations of the participants											
	No		Somewhat		Moderate		Much		Very much		
	n	%	n	%	n	%	n	%	n	%	N
Feeling loved in the family	11	1.7	32	4.8	94	14.2	166	25.1	358	54.2	661
Feeling understood in the family	39	5.9	89	13.5	223	33.9	167	25.4	140	21.3	658
Parent conflict frequency	166	25.1	332	51.1	84	12.9	40	6.2	28	4.3	650
Parent conflict severity	279	42.8	228	35.0	107	16.4	23	3.5	15	2.3	652
Frequency of conflict with parents	95	14.4	305	46.3	154	23.4	68	10.3	37	5.6	659
Severity of conflict with parents	239	36.3	251	38.1	118	17.9	37	5.6	14	2.1	659

Table 8. Variables related to the family life of the participants

	Never		Somewhat disagree		Neither agree nor disagree		Agree		Strongly agree		N
	n	%	n	%	n	%	n	%	n	%	
I cannot predict how some people in my family will behave.	257	39	223	33.8	110	16.7	44	6.7	25	3.8	659
We generally have a regular family life.	22	3,3	55	8.3	119	18	210	31.8	254	38.4	660
Our house is generally clean and tidy.	5	0,8	13	2.0	63	9.5	193	29.2	387	58.5	661
The methods used by some people in my family to nurture me feel harsh to me.	353	53,4	159	24.1	71	10.7	45	6.8	33	5.0	661
Some people in my family recognize my positive behavior and appreciate me enough for that.	34	5,2	82	12.5	130	19.8	189	28.7	223	33.9	658
I think my family has many expectations from me and it has exceeded my limits.	190	28,7	152	23.0	143	21.6	102	15.4	74	11.2	661
People in my family are good at dealing with life challenges.	11	1.7	28	4.2	95	14.4	208	31.5	319	48.3	661

Table 9. Thoughts and behaviors that may leave participants open to abuse

	Not suit me at all		Not suit me much		Not suit me		Suits me a little		Suits me a lot		Suits me extremely		N
	n	%	n	%	n	%	n	%	n	%	n	%	
1. I have to do everything adults say to me	120	18.2	115	17.5	136	20.6	161	24.4	76	11.5	51	7.7	659
2. If I open an account on the Internet or register to play a game, I will share my real name.	144	21.9	83	12.6	101	15.3	102	15.5	107	16.2	122	18.5	659
3. Sometimes it is appropriate to say "no" to an adult.	46	7.0	49	7.4	74	11.2	143	21.7	126	19.1	221	33.5	659
4. I can get in the car even of people I don't know very well.	434	65.7	95	14.4	44	6.7	41	6.2	18	2.7	29	4.4	661
5. Secrets must always be kept.	41	6.2	41	6.2	49	7.4	57	8.6	121	18.3	352	53.3	661
6. If a friend tells me that if I don't do what s/he wants, s/he won't talk to me again, I will do what he wants.	277	42.0	119	18.0	117	17.7	69	10.5	38	5.8	40	6.1	660
7. Foreigners also look like ordinary people.	95	14.5	74	11.3	134	20.4	113	17.2	96	14.6	144	22.0	656
8. If I have an incident that I will be very afraid or embarrassed, I have an adult acquaintance that I can tell about this incident.	99	15.0	63	9.6	64	9.7	75	11.4	107	16.3	250	38.0	658
9. I can share some secrets with people I trust for my own good.	66	10.0	51	7.7	70	10.6	121	18.3	141	21.4	211	32.0	660
10. I can report this to my relatives when I feel unsafe.	52	7.9	62	9.4	78	11.8	95	14.4	144	21.8	229	34.7	660
11. I trust people that I haven't actually seen but I only know from the internet.	353	53.4	115	17.4	80	12.1	62	9.4	25	3.8	26	3.9	661
12. Even if I love or like someone, s/he has no right to treat me in a way I don't like.	56	8.5	41	6.2	62	9.4	56	8.5	100	15.2	344	52.2	659
13. If a bad boy/girl at school orders me to do something, I better do what s/he wants.	509	77.2	58	8.8	33	5.0	23	3.5	24	3.6	12	1.8	659
14. Although someone says he knows you, he may still be a stranger	110	16.6	69	10.4	74	11.2	54	8.2	87	13.2	267	40.4	661

Table 10. Comparison of the thoughts and behaviors that may leave participants vulnerable to abuse by gender

| | 9th grade | | | | | 10th grade | | | | | 11th grade | | | | |
| | Girls | | Boys | | | Girls | | Boys | | | Girls | | Boys | | |
	mdn	n	mdn	n	Mann-Whitney U test	mdn	n	mdn	n	Mann-Whitney U test	mdn	n	mdn	n	Mann-Whitney U test
I can get in the car even of people I don't know very well.	1.0	144	1.0	164	U=9199.5, p=.000, r=-.22	1.0	125	1.0	91	U=4414.5, p=.001, r=-.35	1.0	84	2.0	53	U=1311.0 p=.000, r=-.38
Secrets must always be kept.	6.0	144	5.0	164	U=9908.5, p=.009, r=-.14	6.0	125	6.0	91	P=.925	6.0	84	6.0	53	P=.148
If a friend tells me that if I don't do what s/he wants, s/he won't talk to me again, I will do what he wants.	1.0	143	2.0	164	U=9348,0 p=.001, r=-.18	2.0	125	2.0	91	P=.169	1.0	84	2.0	53	U=1746.5 p=.024, r=-.19
I can report this to my relatives when I feel unsafe.	5.0	144	4.0	163	U=8808,0 p=.000, r=-.22	5.0	125	5.0	91	U=4774.5 p=.037, r=-.21	5.0	84	4.0	53	P=.081
Even if I love or like someone, s/he has no right to treat me in a way I don't like.	6.0	143	5.0	164	U=9458,0 p=.002, r=-.17	6.0	124	5.0	91	U=4436.0 p=.004, r=-.30	6.0	84	5.0	53	U=1495.0 p=.000, r=-.30
If a bad boy/girl at school orders me to do something, I better do what s/he wants.	1.0	144	1.0	163	U=9850.5 p=.001, r=-.18	1.0	125	1.0	91	P=.166	1.0	83	1.0	53	U=1644.0 p=.001, r=-.28
If I have an incident that I will be very afraid or embarrassed, I have an adult acquaintance that I can tell about this incident.	5.0	143	4.0	163	p=.078	5.0	124	5.0	91	P=.337	5.0	84	3.0	53	U=1386.0 p=.000, r=-.32
I trust people that I haven't actually seen but I only know from the internet.	1.0	144	2.0	164	p=.059	1.0	125	2.0	91	P=.227	1.0	84	2.0	53	U=1590.5, p=.00, r=-.26

In this study, 43% of the participants (n=284) estimated the number of children who had been emotionally abused in their close circle as 3 or more. The same estimate was 20.4% for physical abuse (n=135).

Looking at the decision tree, individuals who were unsafe in the neighborhood environment, perceive their economic situation as worse than their counterparts, and who tended to escape from school were likely to experience emotional abuse. In addition, individuals who had close friends who harmed animals or people in their environment, even if their neighborhood was safe, reported a child who was emotionally abused in their close environment, especially when they lacked friend support.

Again, because s/he felt safe in his neighborhood and did not have any risk-taking behaviors, given that s/he was generally deprived of love and support increased the likelihood of someone who was subjected to emotional abuse in his immediate environment. Among the participants who did not feel safe in the neighborhood and had a violent close friend, the rate of reporting of emotionally abused friends was higher (Figure 1).
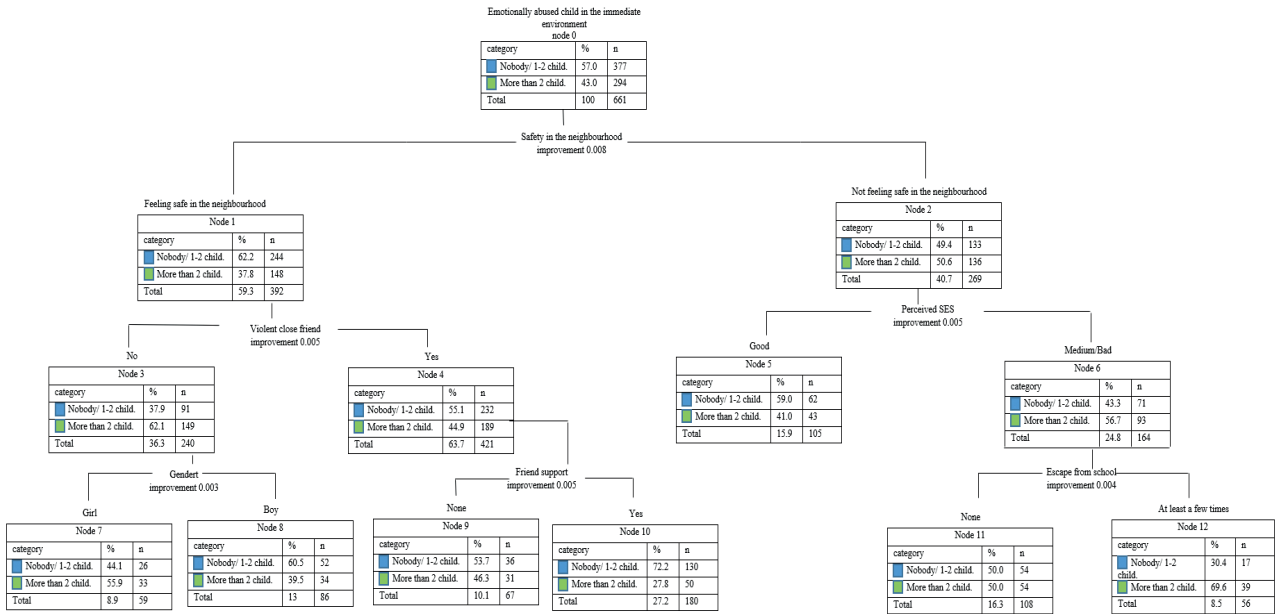
Figure 1. Decision tree made for the notification of emotional abuse in the close circle

Table 11. Decision tree cross-validity value for emotional abuse

Risk		
	Prediction	**Standard error**
Method		
Resubstitution	.386	.019
Cross-validity	.463	.019
Growing method: CRT Dependent variable: Child who is emotionally abused near/ none or more than two		

The ten-fold cross-validity coefficient was found to be .433.

Table 12. Decision tree contingency table for emotional abuse

Classification			
	Predicted		
Observed	No one or 1-2 people	More than 2 people	Percent correct
No one or 1-2 people	334	43	88.6%
More than 2 people	212	72	25.4%
	82.6%	17.4%	61.4%
Growing method: CRT Dependent variable: Child who is emotionally abused near/ none or more than two			

When classifying the dependent variable (emotionally abused child in a person's close circle), these variables are important: whether a participant had support from a friend, whether s/he escaped from the school or not, feeling safe in the neighborhood or not and whether had a violent friend (Figure 2).

If the participant did not have a violent friend but escaped from school without informing anyone, the rate of reporting that there were children who were physically abused in the immediate vicinity was high. If the person lacked support from close friends, having a close violent friend increased the rate of reporting that a participant had physically abused children in a close circle, although s/he did not escape from the school (Figure 3, 4).
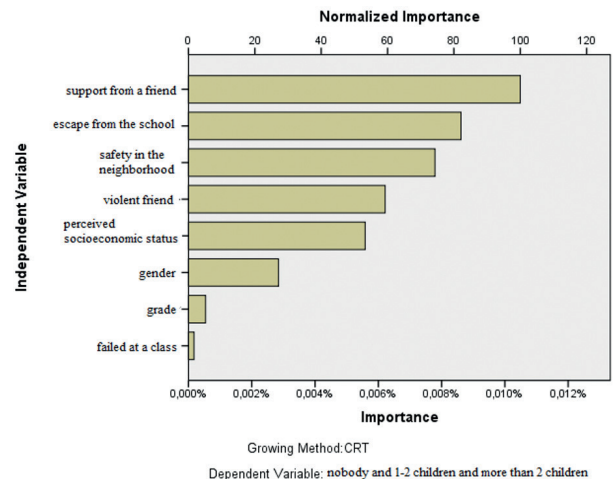

Figure 2. Normalized variable importance for the variable of being an emotionally abused friend in the immediate environment.
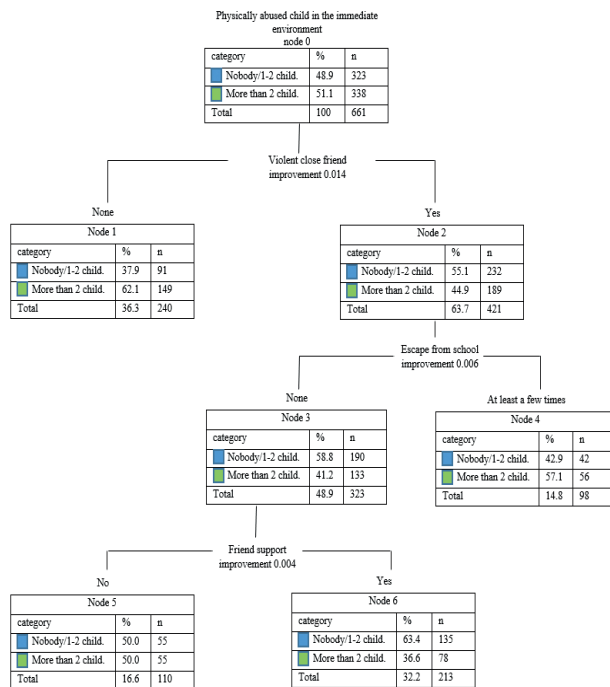
Figure 3. Decision tree made for the notification of physical abuse in the immediate environment

When classifying having physically abused children in a close circle, the most prominent variables are escaping from the school, having a violent close friend and having a support from a friend (Figure 4).
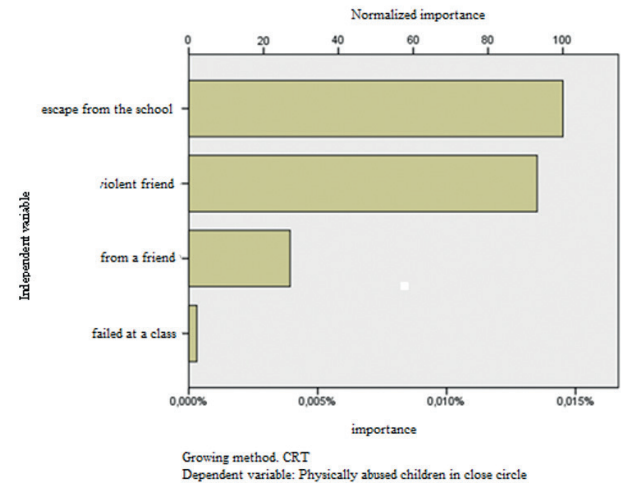

Figure 4. Normalized variable importance for having a friend who is physically abused in the close circle

Table 13. Decision tree cross-validity value for physical abuse

Risk		
	Prediction	**Standard error**
Method		
Resubstitution	.402	.019
Cross-validity	.448	.019

Growing method: CRT
Dependent variable: Child who has been subjected to physical abuse at all/no one or more than two in a close circle

Table 14. Contingency table for physical abuse

Classification			
	Predicted		
Observed	**No one or 1-2 people**	**More than 2 people**	**Percent correct**
No one or 1-2 people	135	188	% 41.8
More than 2 people	78	260	%76.9
	% 32.2	%67.8	59.8%

Growing method: CRT
Dependent variable: Child who has been physically abused (none/one or more than two)

4. Discussion

4.1. Demographic İnformation and Possibility of Abuse

The review and meta-analyzes examining the risks and protective factors associated with abuse and neglect report that various demographic data contribute to different degrees of abuse or neglect. Stith et al. (18) associated the lack of social support, unemployment, low socio-economic level, and being a single parent in the family with physical abuse. While the low level of education of parents is associated with physical abuse, neglect and emotional neglect, the gender of the child is related to both sexual and emotional abuse (18, 19). The sex of the child may cause parents to develop different expectations from girls and boys according to their gender roles, and therefore react differently to the child's behavior. This may be related to the different abuse experiences of children of different genders (20). The high number of children in the family also seems to be related to neglect (17, 21). Because the majority of the parents of the participants in this study are alive and married and that almost all the fathers have jobs can be described as protective. On the other hand, given that approximately one-third of the participants reported that they were not sure whether or not they could get support if their family had difficulties in life suggests that they may be at risk for social support.

4.2. Risk-Taking Behaviors, Thinking Style That Facilitates Abuse and Assertiveness

It is reported that there is a correlation between adolescent behaviors that endanger his/her health and safety and past abuse experience. For example, it has been observed that the externalizing psychological problems that arise in the child after the abuse has made it easier for the person to show risk behaviors related to substance use and sexual intercourse (22). Certain risk behaviors, such as becoming pregnant at a young age and having sexual intercourse at an earlier age than their peers, may increase in people who have been abused (23). Being abused in childhood is one of the variables that predict both girls' and boys' regular smoking and drinking (24) and excessive alcohol intake behavior at once (25). In this study, most of the students reported that they used health hazardous substance (such as alcohol and substance) at least several times. In the upper classes, this risk behavior was observed more frequent in girls than boys were. Being a girl, having a history of abuse, especially emotional abuse, and having deviant friends are important in predicting dangerous behavior (26). Simantov, Schoen and Klein (24) also confirm that there is a higher rate of abuse, domestic violence, negative life event reporting in people who regularly show smoking and drinking behavior, and the use of alcohol and substances in the upper classes (11th and 12th grades) is smaller than those (7 and 8th grade).

One of the risk behaviors questioned in this study was school escaping. Adolescents who are abused in the early period are more likely to escape from the school. They are less likely to continue higher education and show many psychological symptoms (27). Hagborg, Berglund and Fahlke (28) also reported that among students who escaped from school, students who were abused were high, nearly all of them had more than one type of abuse, more mental health disorders, and their relationship with their teachers was impaired. In this study, students who say that they have fled the school at least a few times made up about a third of the participants, and in the upper classes, the behavior of boys to escape from school was more common than girls.

Assertiveness is among the recommended skills to be developed in prevention programs (29). This skill can be developed to prevent a particular type of abuse, such as concerning sexual abuse, such as being able to say no to unwanted touch. Or it can be acquired as a general skill (30) and developed to be used in every stage of life (31). In this study, assertiveness levels did not make a significant difference according to gender and class.

In child abuse prevention, it is aimed to change the target audience's thoughts, approaches and behaviors through many concepts. Some of the concepts that can be targeted are the possession of the body, the distinction between good and bad touch, special parts of the body, keeping secrets, recognizing strangers, methods of fooling the attacker, denouncing existing abuse, and an acceptable and unacceptable touch of acquaintances (11). It is important to know the knowledge and attitudes of children in these areas that may make them vulnerable to exploitation before the prevention program is developed. Obtaining this data will also help in determining whether the targeted benefits have been achieved after the program.

Many things affect whether or not children express their abuse. Some of these are the relationship with the aggressor, the methods used by the attacker to silence the child, the child's perceived responsibility for the event, the guilt the child feels about the event, child's expectations about what will happen to their family, the attacker when they reveal the event. (32).

In this study, considering the responses of the participants in Table 9, the issues of being able to say "no" to adults or their peers and approach to keeping secrets seem to be the subjects that can be focused on in a prevention study. In addition, participants' knowledge and approach to safe internet use can be another focus. Studies show that risky internet use behaviors are strongly related to online victimization (33).

4.3. Family, School, Close Environment Life and Possibility of Abuse

Family members' understanding, love and acceptance of each other as well as adolescents are essential conditions for healthy psychological functioning. The nature and severity of conflicts that inevitably arise in family relationships and the ways the family members' coping with these are important for the healthy development of the person in adolescence. Concerning physical abuse, family conflict and cohesion in the family have a high effect size, and for neglect, the quality of the parent-child relationship has a high effect size (17). Tian, Liu and Shan (34) showed that parental support positively affects the psychological resilience of the adolescent both directly and by increasing self-esteem. How family functions are evaluated by adolescents are among the variables that predict physical or emotional abuse. The closeness and trust of family members to each other, whether they behave in consideration of all family members in their behaviors, predicted the physical abuse score and communication problems in the family predicted the emotional

abuse score (35). In families with abuse, for example, the presence of emotional abuse predicted the child's problem behaviors both directly and through self-efficacy and psychological resilience variables (36).

Conflicts between parents and adolescents indicate that not only disagreement but both sides frame the events in different ways. While the issues discussed are evaluated by the parent concerning right-wrong and/or morale, these issues can be seen as a personal choice for the adolescent (37). In this study, the vast majority of participants felt they were loved by their parents, but almost a fifth thought that they were not understood by them. The sense of understanding in the family in the 9th and 10th grades was significantly lower in girls than in boys. Nearly three-quarters found their family highly/almost highly enough to deal with difficulties.

The general flow of family life, how daily tasks are organized, and routines at home informs about the quality of the family's organization and predictability of family life. In this study, about one-tenth of the respondents reported that they could not predict the way some of the family members, and they did not have a regular family life. Regulating the conditions at home in the daily lifestream is also considered among parenting skills, and parents are also supported in prevention programs.

Parenting styles are also a variable studied in the literature of abuse. The values the parents use while raising the child, the emotional tone of their upbringing, and the reward-punishment system they use determine many things. In our study, approximately one-tenth of the participants reported that the method of raising used in the family was harsh on him/her, and about one-fifth reported that his/her positive behaviors were not noticed and appreciated.

Hard discipline methods can be associated with behavioral problems in children. The presence of a positive attitude in the parent-child relationship (such as a parent's warm approach) may cause a buffer effect that will reduce the effects of harsh physical discipline (38). Dysfunctional parenting styles, such as overreaction to the child, and being authoritarian towards him, are associated with the potential for emotional and physical abuse of the child (39).

In this study, about a quarter of the participants reported that the expectations of the family members were higher than their own and exceeded their limits. Some studies point out that high parental expectations also increase the likelihood of criticizing the child (40, 41). The expectation of the parent should not be understood only as a variable with negative results. This variable, for example, causes the student to increase the emphasis on

academic achievement; on the other hand, it may develop his depressive mood (42). In this study, the opinions of the participants about parental expectations differed by class and gender. Generally, males found their family members' expectations much higher, thought that they were not appreciated enough and find their upbringing methods harsh.

The variables, such as the social organization of the neighborhood in which the person lives, the demographic characteristics of the people living in the environment, general human mobility are in line with the changes in the official abuse reports.

If social control and organization problems are observed in the living environment, the rate of abuse is related to this (43, 44). The high level of social cohesion in the neighborhood can be associated with the reduction of neglect cases in that neighborhood (45). For example, keeping an eye on each other's children and being able to act together in meeting the basic needs of children may reduce negligence. At the individual level, the negative perception of the social processes in the living environment may affect the stress that parents experience about parenting and mediate the emergence of physical abuse and neglect (46). In neighborhoods where collective impact, social networks are strong, and irregularity is low, rates of neglect, physical and sexual abuse are low (47). The feeling of belonging to the environment in which the person lives and feeling safe, there can also be considered as an indicator of how this environment is evaluated by him. The disruptive effects of abuse on the sense of belonging are reported: social loyalty and belonging are fully mediated in the relationship between psychological abuse and psychological resilience (48).

Up to three-fifths of the participants in this study reported feeling very/very safe in their environment. In the tenth grades, the sense of security in the neighborhood and the sense of belonging to the school showed a significant difference between the genders. Both feelings are lower in girls.

The way students go to school can be important in predicting the risks students might face. For example, dropping out of school by a parent or service may reduce the likelihood of absenteeism, hitchhiking, or more risky behaviors than going to school alone or with friends. Indeed, when individuals go to school alone, they feel less secure, while the presence of an adult can increase their sense of confidence (49).

Being abused is among the variables that can predict a decrease in self-esteem and deterioration of relationships with friends, depending on the type of abuse (50). Chronic abuse is associated with rejection by friends. Among the

things that facilitate this relationship are the aggressive behaviors shown by the victim. Victim children's social withdrawal is also associated with their rejection by their friends (51). In addition, having a history of abuse increases the likelihood of violence against schoolmates (52). In this study, approximately two-fifths of the respondents reported that they experienced physical or emotional harm at least a few times from their friends at school. This was more common among 9th-grade students, and girls were less likely to experience violence than boys.

5. Conclusion

The findings obtained in this study suggest that because parents are alive and married and that almost all of the fathers have a job are protective factors concerning abuse or neglect and failure to find someone to support if the family is in a difficult situation appears to be a risk factor. The participants mostly find their family sufficient to deal with the difficulties in life.

Most of the students have used harmful substances at least a few times, and girls in the upper classes have shown this behavior at a higher rate than boys.

Those who say that they have escaped from school at least a few times make up about a third of the participants. In upper classes (11th grade), boys have higher school absenteeism than girls.

Although the participants mostly feel that they are loved by their parents, they think that they are not understood by them, and this sense of understanding is lower in girls than in boys.

Approximately one-tenth of the participants reported that the method of upbringing used in the family was harsh to him, and about one-fifth of them reported that his positive behavior was noticed or not appreciated. The participants also reported that the family had many expectations from them and exceeded their limits. Especially males in the 10th and 11th grades find the expectations from their families more, find the upbringing methods hard, and thought that they were not appreciated enough. More than half of the participants reported that they felt very/very safe in their environment. In the tenth grade, the sense of security in the neighborhood and the sense of belonging to the school were lower in girls.

About half of the participants reported that they had experienced physical or emotional harm at least a few times from their friends at school. This was more common among 9th-grade students, and girls were less likely to experience violence than males.

Based on these results reported above, being able to say no to friends, i.e., refuse to smoke, increasing the parent-child interaction, realizing the effects of parenting

styles of children on the development of children, and using safe internet, can be chosen as the target of a prevention program that can be carried out in the region where this study has been conducted.

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