



Violence Tendency among Secondary School Students: The Effect of Self-Esteem and Empathic Tendency

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Authors' contributions

This work was carried out in collaboration between both authors. Author MK the research planning, implementation, statistical analysis and writing, author TU. Collecting data, conducting ethical permits for research, writing and reading. Both authors read and approved the final manuscript.

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ABSTRACT

Aims: Personal, familial and environmental factors can be effective in tendency to violence. This study was conducted to determine the effects of self-esteem of adolescents and empathic tendency on levels of violence tendency to secondary school students, regardless of socio-demographic characteristics.

Study Design: This study is a retrospective record study.

Place and Duration of Study: Secondary schools in the city center of Yozgat in the 2017-2018 academic years.

Methodology: In the study, the data in the records of secondary school students (n=987, boys 503, girls 484; grade range 5-8) which were collected using the scales were used. The data were analysed by correlation, independent t-test, Anova and linear regression (LR).

Results: The mean violence tendency, self-esteem, and empathic tendency scales' scores of the

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students were 33.4, 69.0 and 2.4, respectively. According to the multivariate analysis, low empathic tendency, family perception of low performance, disliking school, increased TV viewing time, low self-esteem, increased age, being exposed to violence at home and not preparing for high school entrance exam were found to be statistically significant as the factors affecting the tendency to violence in order of priorities.

Conclusion: Early adolescents have a moderate level of tendency to violence. Moreover, low self-esteem, low empathic tendency, individual characteristics and parental attitudes are associated with tendency to violence.

Keywords: Adolescent; tendency to violence; self-esteem; empathic tendency; students.

1. INTRODUCTION

Adolescence is one of the life stages in which physical, social and psychological changes are experienced most. Adolescence is between the ages of 10-19, while the ages 10-14 years are classified as early adolescence and 15-19 years as late adolescence [1]. Adolescents in this period are the riskiest group for tendency to violence. According to the World Health Organization (WHO), violence is defined as the use of threat or physical force against oneself, another person, a community or a group that may result in physical injury, death, maldevelopment or deprivation [2]. Tendency to violence consists of emotions, thoughts and behaviours related to violence. Today, violence among adolescents can be of different types such as peer bullying, cyber bullying, physical and verbal violence [3,4].

Since violent behaviour causes undesirable consequences such as mental damage, injury and death, it is necessary to determine adolescents' tendency to violence. Personal, familial and environmental factors can be effective in tendency to violence. The fact that an individual resorts to violence, whereas the other person does not under the same conditions reveals that personal characteristics are extremely effective in tendency to violence. Various factors such as socio-demographic characteristics, self-esteem and empathic level can affect the behaviour of violence [5-7].

Self-esteem is defined as positive and negative attitudes that the individual has about himself/herself [8]. It is a feeling that occurs as a result of self-perception, judgment and evaluation [9]. The level of self-esteem affects the individual's performance and ability in school life, the ability to cope with problems and stress, friend relationships, the degree of communication and reactions with people around him/her. Individuals with poor self-esteem have low self-

confidence, and are ashamed of themselves, feel worthless and helpless, and have low levels of performance and skill [9]. It has been found that adolescents exposed to peer violence have low self-esteem and tend to perceive themselves and the situation they are in as negative [10,11]. Low self-esteem can be considered among the main causes of problematic behaviours, especially violence during adolescence [12].

Empathy can be briefly defined as the ability to understand other people's feelings. Adolescents who know others' feelings better and can empathize can establish better relationships with their friends and teachers. These children are more prone to helping and sharing and are loved by their peers and people around them, and their school performance is higher [13]. Empathy contributes to the development of social behaviours and reduction of violent behaviours [14].

The adolescent's tendency to violence is important in terms of showing that she/he can resort to violence anywhere and anytime. Violent incidents affect both the individual resorting violence and the victim, causing undesirable consequences [15]. Studies have been conducted on many factors affecting tendency to violence; however, there are no studies examining the effect of violence tendency, self-esteem, empathic level and other socio-demographic factors together.

1.1 Statement of the Problem

1. Do adolescents' level of empathic tendency and low self-esteem increase the tendency to violence?
2. Do the sociodemographic characteristics of the adolescents affect the tendency to violence?

1.2 Objectives

The aim of this study is to determine the effects of self-esteem of adolescents and empathic

tendency on levels of violence tendency, regardless of socio-demographic characteristics.

2. METHODOLOGY

2.1 Study Area

The population of the study consisted of secondary school's students in the city center of Yozgat, Turkey.

2.2 Study Design

This study is a retrospective record study conducted by evaluating the data in the forms used by the nursing students of a university during their school health practices.

2.3 Study Population and Sample

The population of the study consisted of record forms of secondary school's students in the 2017-2018 academic years. The school health practices were performed in 5 secondary schools in the spring term. In Turkey, secondary school students are in the age group of 10-14 years and are in early adolescence. Within the scope of school health practices, the records of 987 students who voluntarily participated in the health screenings prepared to determine the physical and mental health status of students and who responded the questions in the forms constitute the sample of the study.

2.4 Sample Size Determination

The sample size was calculated with the GPower 3.1 program. In the sample size calculation, it was assumed that minimum 5 factors, which are thought to affect the tendency to violence, are empathic level, self-esteem and 3 socio-demographic factors at least may have an effect on the tendency to violence. Accordingly, in order to analyse the effect of at least 5 factors on the violence tendency by linear regression, the minimum sample size (power $1-\beta=0,95$) was calculated as $n=138$ when the effect size was taken as $R^2=0.15$ and the margin of error $\alpha=0.05$. If 10 factors are included in the regression under the same conditions, the sample size was calculated as $n=172$.

2.5 Study Instrument

The data in the health screening forms prepared for secondary school students including a

student information form containing the socio-demographic characteristics of students, the Violence Tendency Scale (VTS), the Rosenberg Self-Esteem Scale (RSES), and Empathic Tendency Scale (ETS) were evaluated.

2.5.1 Student information form

It consists of questions about age, gender, class, number of siblings of students, and employment and educational status of their parents etc.

2.5.2 Violence tendency scale (VTS)

The scale was developed by Haskan and Yildirim (2012) and consists of 20 items, 1 of which is reverse [16]. The scale is rated on a 3-point Likert-type scale (3=always, 2=sometimes, 1=never) and contains straight items and the reverse item is reverse-scored. The total score that can be obtained from the VTS ranges between 20 and 60 points. High scores indicate high tendency to violence.

2.5.3 Rosenberg self-esteem scale (RSES)

It was developed by Rosenberg in 1965 and the Turkish validity and reliability study of the scale was conducted by Çuhadaroğlu (1986). The scale consists of 63 questions and has 12 sub-dimensions. There are 6 items and a total of 10 questions in the self-esteem subscale. Positively and negatively worded items are listed successively. In the "Self-esteem" subtest, those who score 0-1 are considered to have "high" self-esteem, those who score 2-4 are considered to have "moderate" self-esteem, and those who score 5-6 are considered to have "low" self-esteem. A high score indicates low self-esteem, while a low score indicates high self-esteem.

2.5.4 Empathic tendency scale (ETS)

The ETS, which was developed by Dökmen (1988), measures the potential of individuals to develop empathy in daily life. The scale prepared as a Likert-type scale and consists of 20 items, 8 items of the scale are written negatively worded to prevent individuals' tendency to constantly say yes. The negatively worded items are reverse-scored. A high score means high empathic tendency is high. For the validity study, the correlation between the ETS and the "Understanding Emotions" part of the Edwards Personal Preference Schedule was analysed.

2.6 Methods of Data Collection

The data were obtained from the forms of the intern nurses' practices who do internships at schools within the scope of school health. First of all, the internship forms were examined and it was determined what kind of data were available. Then, the forms of the data that are suitable for the research hypothesis were determined and the data in these forms were used for research purposes.

2.7 Data Management and Analyses

The data was analyzed in IBM SPSS Statistics Standard Concurrent User V 25, Authorization Code: e31d836848b0a60e5756. Pearson correlation analysis, the Student's t-test, ANOVA and Linear Regression (LR) analyses were used in the analysis of the data. Independent variables that were statistically significant at the level of $p < 0.10$ in the student t-test and ANOVA test were evaluated in multivariate analyses. In the

multivariate LR analysis, VTS score was included in the model as a dependent variable, categorical variables that gender, exposing to violence in the family and preparing for high school entrance exam were included as a dummy variable, others were included in the model as continuous and ordinal variables and analysed with the stepwise method. The variables that were significant after LR analyses are shown in the tables.

3. RESULTS

Of the students participated in the study, 51.0% were male, 21.8% were in 5th grade, 20.2% were in 8th grade, and 92.4% were living with their parents. Of the students, 74.2% stated that they liked school, 73.9% stated that they had good school performance, 71.7% stated that their families consider their school performance as good, 49.8% stated that they have never played games on the computer, and 53.0% stated that they watched television for half an hour and less (Table 1).

Table 1. VTS, ETS and RSES mean scores of students by socio-demographic characteristics

Gender	n (%)	VTS \bar{X} (SS)	ETS \bar{X} (SS)	RSES \bar{X} (SS)
Male	503 (51.0)	36.6 (7.95)	67.4 (10.24)	2.4 (1.18)
Female	484 (49.0)	30.8 (7.90)	70.7 (10.25)	2.3 (1.19)
Grade	<i>t</i> (p)	11.44 (<0.001)	4.96 (<0.001)	0.64 (0.520)
5th	215 (21.8)	31.1 (7.67)	71.2 (10.18)	2.2 (1.06)
6th	306 (31.0)	33.7 (8.07)	68.9 (9.60)	2.4 (1.19)
7th	267 (27.1)	33.3 (8.46)	69.9 (10.65)	2.3 (1.06)
8th	199 (20.2)	37.2 (8.60)	65.7 (10.56)	2.6 (1.43)
Mother's education	<i>F</i> / <i>KW</i> (p)	53.94 (<0.001) ^b	10.80 (<0.001)	3.26 (0.354) ^b
Primary school and lower	201 (20.4)	34.7 (8.89)	66.8 (9.45)	2.4 (1.18)
Secondary school	264 (26.7)	33.8 (8.59)	67.7 (10.48)	2.4 (1.16)
High school	311 (31.5)	33.7 (8.24)	70.0 (10.12)	2.3 (1.23)
University	211 (21.4)	32.6 (7.97)	71.3 (10.84)	2.3 (1.16)
Father's education	<i>F</i> / <i>KW</i> (p)	2.13 (0.095)	8.75 (<0.001)	0.63 (0.593)
Primary school and lower	101 (10.2)	34.6 (8.69)	65.8 (9.28)	2.6 (1.21)
Secondary school	163 (16.5)	34.8 (9.42)	67.0 (9.03)	2.6 (1.22)
High school	341 (34.5)	33.8 (8.19)	68.4 (10.09)	2.3 (1.14)
University	382 (38.7)	32.9 (8.07)	71.3 (10.96)	2.3 (1.19)
Mother's employment status	<i>KW</i> (p)	5.73 (0.126) ^b	35.91 (<0.001) ^b	4.80 (0.003) ^b
Does not work	693 (70.2)	33.9 (8.55)	68.3 (10.21)	2.4 (1.19)
Working	294 (29.8)	33.2 (8.12)	70.6 (10.56)	2.3 (1.17)
Father's employment status	<i>t</i> (p)	1.24 (0.216)	3.21 (0.001)	0.92 (0.357)
Unemployed-farmer	142 (14.4)	33.4 (8.40)	67.9 (9.87)	2.4 (1.28)
Civil servant	355 (36.0)	33.2 (7.93)	71.1 (10.77)	2.3 (1.19)
Tradesman	231 (23.4)	35.2 (9.11)	68.3 (10.11)	2.3 (1.06)
Retired and other	259 (26.2)	33.2 (8.38)	67.5 (9.89)	2.5 (1.23)
Parents	<i>KW</i> (p)	5.73 (0.126) ^b	35.91 (<0.001) ^b	3.12 (0.175) ^b
Living together	912 (92.4)	33.7 (8.47)	69.2 (10.45)	2.3 (1.18)
Other	75 (7.6)	34.6 (7.95)	66.7 (8.96)	2.7 (1.23)
Family's income level	<i>t</i> (p)	0.91 (0.365)	2.04 (0.042)	2.36 (0.018)
Bad	27 (2.7)	37.3 (10.83)	62.2 (12.99)	2.8 (1.34)

Gender	n (%)	VTS \bar{X} (SS)	ETS \bar{X} (SS)	RSES \bar{X} (SS)
Middle	243 (24.6)	34.9 (8.59)	66.3 (10.14)	2.5 (1.21)
Good	493 (49.9)	33.6 (8.10)	69.4 (9.81)	2.3 (1.16)
Very good	224 (22.7)	32.3 (8.38)	72.0 (10.42)	2.4 (1.17)
Number of siblings	<i>F /KW (p)</i>	5.59 (0.001)	16.56 (<0.001)	3.31 (0.020)
None	74 (7.5)	35.0 (8.65)	68.5 (9.47)	2.7 (1.18)
1 sibling	433 (43.9)	32.9 (7.89)	69.8 (10.85)	2.3 (1.17)
2 sibling	349 (35.4)	34.1 (8.55)	68.9 (9.88)	2.3 (1.19)
≥ 3 sibling	131 (13.3)	34.6 (9.49)	67.1 (10.29)	2.5 (1.19)
	<i>F /KW (p)</i>	6.37 (0.95) ^b	2.38 (0.069)	2.90 (0.034)

^a MWU: Mann-Whitney U test, ^b KW: Kruskal-Wallis Test, F: Anova test, t: Independent t test
 VTS: Violence Tendency Scale, RSES: Rosenberg Self-Esteem Scale, ETS: Empathic Tendency Scale

Table 1. Continue

Preparation for high school entrance exam	n (%)	VTS \bar{X} (SS)	ETS \bar{X} (SS)	RSES \bar{X} (SS)
Not prepared	195 (19.8)	35.1 (9.18)	67.8 (10.38)	2.5 (1.17)
Prepared	792 (80.2)	33.4 (8.20)	69.3 (10.34)	2.3 (1.19)
Liking school	<i>t (p)</i>	1.83 (0.067) ^a	1.89 (0.058)	1.81 (0.070)
Dislike	109 (11.0)	39.8 (9.13)	63.4 (10.61)	2.8 (1.45)
Neutral	146 (14.8)	37.5 (7.57)	65.7 (9.88)	2.7 (1.36)
Liking	350 (35.5)	33.9 (7.76)	68.3 (9.38)	2.3 (1.12)
Very liking	382 (38.7)	30.3 (7.46)	72.5 (10.11)	2.2 (1.03)
Exposed to violence at home	<i>F /KW (p)</i>	146.54 (<0.001) ^b	34.09 (<0.001)	24.99 (<0.001) ^b
Unexposed	907 (91.9)	33.2 (8.31)	69.5 (10.21)	2.3 (1.15)
Exposed	80 (8.1)	39.4 (7.77)	63.4 (10.47)	3.1 (1.29)
Perceived school performance	<i>t (p)</i>	6.35 (<0.001)	5.12 (<0.001)	6.05 (<0.001)
Low	29 (2.9)	41.8 (6.84)	60.6 (8.27)	3.2 (0.98)
Middle	229 (23.2)	36.2 (8.19)	65.2 (10.25)	2.8 (1.44)
High	437 (44.3)	33.5 (8.28)	69.1 (9.39)	2.3 (1.12)
Very high	292 (29.6)	31.3 (7.97)	72.7 (10.54)	2 (0.93)
Family's perceived of school performance	<i>F /KW (p)</i>	25.83 (<0.001)	80.98 (<0.001) ^b	55.61 (<0.001) ^b
Low	63 (6.4)	40.5 (7.74)	63.0 (10.04)	2.9 (1.38)
Middle	216 (21.9)	37.2 (8.09)	65.4 (10.15)	2.8 (1.34)
High	412 (41.7)	33.1 (8.10)	69.0 (9.45)	2.3 (1.11)
Very high	296 (30.0)	30.7 (7.59)	73.0 (10.25)	2.1 (0.98)
Watching TV (hours/ day)	<i>F /KW (p)</i>	44.34 (<0.001)	33.64 (<0.001)	52.41 (<0.001) ^b
Half an hour and less	127 (12.9)	33.4 (9.31)	68.1 (10.03)	2.4 (1.15)
1 hour	396 (40.1)	32.2 (7.76)	70.0 (10.45)	2.3 (1.2)
2 hour	255 (25.8)	34.0 (8.34)	69.6 (10.81)	2.4 (1.2)
3 hour	131 (13.3)	35.6 (8.29)	67.4 (9.91)	2.3 (1.17)
4 hour and more	78 (7.9)	37.9 (8.74)	66.1 (8.82)	2.6 (1.11)
Playing games on the computer (hours/ day)	<i>F /KW (p)</i>	38.20 (<0.001) ^b	3.93 (0.004)	1.80 (0.126)
Not playing	492 (49.8)	32.9 (8.15)	69.3 (10.70)	2.4 (1.22)
Half an hour	56 (5.7)	32.1 (8.47)	73.1 (8.84)	2.3 (1.05)
1 hour	251 (25.4)	33.5 (8.20)	69.5 (9.52)	2.2 (1.15)
2 hour	99 (10.0)	35.4 (8.56)	68.3 (9.91)	2.5 (1.13)
3 hour and more	89 (9.0)	38.3 (8.80)	64.6 (10.84)	2.7 (1.23)
	<i>F /KW (p)</i>	9.79 (<0.001)	6.58 (<0.001)	3.04 (0.017)
Total	987 (100.0)	33.7 (8.43)	69.0 (10.36)	2.4 (1.19)

^a MWU: Mann-Whitney U test, ^b KW: Kruskal-Wallis Test, F: Anova test, t: Independent t test
 VTS: Violence Tendency Scale, RSES: Rosenberg Self-Esteem Scale, ETS: Empathic Tendency Scale

Table 2. Correlation analysis between factors related to the level of violence tendency (VTS)

	VTS	ETS	RSES	3	4	5	6	7	8	9	10	11	12	13
1.ETS	-.427**	1												
2.RSES	.281**	-.389**	1											
3. Grade	.210**	-.143**	.064*	1										
4. Mother's education level	-.076*	.159**	-.041	-.051	1									
5. Father's education level	-.081*	.182**	-.115**	-.049	.527**	1								
6. Level of family's income	-.122**	.210**	-.067*	-.109**	.201**	.188**	1							
7. Number of siblings	.045	-.079*	.015	.097**	-.213**	-.111**	-.021	1						
8. Watching TV time	.176**	-.088**	.026	.024	-.120**	-.055	-.063	.111**	1					
9. Playing games	.205**	-.133**	.084**	.052	-.069*	-.065*	-.035	-.008	.084**	1				
10. Liking school	-.388**	.299**	-.175**	-.341**	-.014	-.005	.064*	-.022	-.084**	-.157**	1			
11. Perceived school performance	-.264**	.296**	-.252**	-.175**	.139**	.225**	.199**	-.050	-.101**	-.118**	.224**	1		
12. Family's perceived of school performance	-.341**	.303**	-.248**	-.256**	.103**	.156**	.211**	-.027	-.088**	-.126**	.237**	.618**	1	
13. Exposed to violence at home	.198**	-.161**	.189**	-.052	-.057	-.047	-.085**	-.009	.015	.028	-.140**	-.094**	-.145**	1
14. Preparation for high school entrance exam	-.082*	.060	-.058	.268**	-.012	.014	.037	.059	-.054	-.075*	.024	.060	.008	-.076*

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).
VTS: Violence Tendency Scale, RSES: Rosenberg Self-Esteem Scale, ETS: Empathic Tendency Scale

Table 3. Multivariate analysis of variables that may be effective in VTS score with linear regression

	Unstandardized Coefficients B	95.0% Confidence Interval for B		Stan. Coef. β	t	p	Adj. R ²
		Lower Bound	Upper Bound				
(Constant)	50.789	45.699	55.880		19.580	.000	
ETS	-.175	-.224	-.125	-.215	-6.947	.000	0.181
Gender=Male	4.340	3.486	5.194	.258	9.974	.000	0.258
Level of liking school	-1.454	-1.869	-1.039	-.195	-6.875	.000	0.322
Family's perceived of school performance level	-1.195	-1.728	-.663	-.125	-4.404	.000	0.347
Time spent watching TV	.886	.507	1.264	.117	4.592	.000	0.360
Exposed to violence at home=Not	-2.598	-4.184	-1.012	-.084	-3.214	.001	0.366
Grades	.764	.305	1.223	.095	3.269	.001	0.370
RSES	-.106	-.198	-.014	-.069	-2.261	.024	0.373
Preparation for high school entrance exam=Not	1.199	.099	2.299	.057	2.138	.033	0.375

Independent variables: ETS, RSES, gender, grade, level of family's income, preparation for high school entrance exam, level of liking school, exposed to violence at home, perceived school performance level, family's perceived of school performance level, time spent watching TV, and time spent playing games on the computer.

VTS: Violence Tendency Scale, RSES: Rosenberg Self-Esteem Scale, ETS: Empathic Tendency Scale, Adj. R²: Adjusted R square.

The mean VTS, ETS and RSES scores of the students were 33.4, 69.0 and 2.4, respectively. According to the univariate analysis, the mean VTS score was higher in males, 8th grade students, those with low family income, those who did not indicate that they liked school, those who stated that they were exposed violence at home, those stated they and their families perceived their school performance as moderate and low, and in those whose television (TV) viewing time and time spent playing games on the computer were higher (Table 1).

According to the correlation analysis, there was a positive correlation between violence tendency with RSES (0.281), grades (0.210), time spent watching TV (0.176) and playing on computer (0.205), and exposure to violence (0.198), while there was a negative correlation between ETS (-0.427), level of liking school (-0.388), level of his/her (-0.264) and family (-0.341) perception of school performance, and educational level of mother (-0.076) and father (-0.081) (Table 2).

When a multivariate analysis was conducted with the LR test for the variables significantly correlated with VTS score in the correlation analysis and the variables with different mean VTS scores in the univariate tests, it was found that decreased empathic tendency score,

increased self-esteem score (high score, low self-esteem), increased class, increased television time, decreased level of liking school, negative perception of the family about school performance, exposing violence at home, not preparing for high school entrance exam and being male gender were statistically significant. The significant variables explain 37.5% (adjusted R²= 0.375) of the change in violence tendency score. Of these significant variables, those with the highest (Standardized Coefficients β) effect were being male (0.258), low empathic tendency (-0.215), disliking school (-0.195), and family perception of low performance (-0.125) (Table 3). Family income level, time spent playing on the computer and perception of school performance, which were found to be significant in the univariate tests, were not significant in LR analyses (Table 2-3).

4. DISCUSSION

In this study, the violence tendencies of students in the 10-14 age group, who are at the beginning of adolescence and the effect of especially empathic level and self-esteem level, which are thought to affect this, were analysed.

In this study, the students had a moderate level of tendency to violence (\bar{X} =33.4), and it was

found that the VTS score increased as the class increased (5th \bar{X} =31.1, 8th \bar{X} =37.2) (Table 1). In a study conducted with secondary schools in İzmir, the mean level of tendency to violence was higher (\bar{X} =46.8-52.1), with the 8th graders having the highest level [19]. Adolescence is a period of rapid growth and development. Studies on high school students have found that students have moderate levels of tendency to violence [5,20]. Since this study group is secondary school students, they are expected to have lower tendency to violence than the high school group. It can be speculated that the tendency is moderate since physical violence is defined and known more than other types of violence although there are many types of violence.

In this study, male gender is at the top of the risk factors for tendency to violence. Moreover, boys (\bar{X} =67.4) have a lower empathic tendency than girls (\bar{X} =70.7) (Table 1). In a study on secondary school students, the mean score of violence tendency scale was found to be higher in boys (\bar{X} =44.2) than in girls (\bar{X} =40.7) [21]. In a study conducted on secondary schools in İzmir, it was found that male students (\bar{X} =52.1) tend to be more violent than girls (\bar{X} =46.8) [19]. In a study conducted among high school students in the same city, it was observed that boys had more aggressive behaviours than girls [22]. In a study on university students in Turkey as a different group, it was found that boys had higher tendency to violence than girls [23]. In a study, it found that boys had more tendency to violence than girls due to cultural characteristics [3]. In Turkish adolescent, raising girls and boys with different attitudes affects tendency to violence [6,20,24]. It has been stated that more exposure of boys to violence and acceptance of violent behaviours by the family and the community increase tendency to violence, while more developed self-control skills of girls decreases their tendency to violence [25]. Since male adolescents have a tendency to violence, their tendency poses a potential threat, even if they have not yet resorted to violence.

In this study, it was found that there was a negative correlation (r = -0.427) between tendency to violence and empathic tendency, and the effect of empathic tendency (β = -0.215) was significant in second place in the LR analysis (Table 2, 3). In studies on secondary schools, peer bullying, a type of violence, has been found to be associated with low self-esteem [26,27]. It has been stated that adolescents with low empathic tendency have difficulty in social

adaptation, while those with high empathic tendency have self-control and are able to regulate their responses since they possess social behaviours such as sharing, solidarity, and collaboration from a young age [26]. It has been stated that inadequate empathy is the basis of many psychological disorders such as aggression and bullying [28]. The ability to establish good communication with the environment can facilitate solving problems and reduce tendency to violence.

It was found in this study that as students' tendency to violence (r =0.281) increased as their self-esteem decreased (high score, low self-esteem) (Table 2-3). However, the effect of self-esteem on tendency to violence is very low and ranks 8th (β = -0.069) among the variables included in the LR analysis (Table 3). In a study, it found that adolescents with high self-esteem had a positive mood and had a low tendency to violence [29]. Since adolescents with high self-esteem can meet their own needs, they can better understand the needs of others, therefore their empathic skills are also high [30]. In summary, because high self-esteem of the student makes him/her feel better and provides to establish better relationships, his/her empathic tendency becomes high (r = -0.389, table 2), and the tendency to violence decreases since she/he can easily solve the problems experienced.

The income status of the family effect on tendency to violence was not found to be statistically significant (Table 2-3). In the study by Avci et al. (2016), it was stated that those who perceived the family income level as poor had higher aggression level, but this was not significant in multivariate analysis [22]. In their study, Özgür et al. (2011) determined that unemployment of the father and low-income level of the family affected tendency to violence in adolescents. [20]. Another study found that the high-income level of the family increased the self-esteem of the child [31]. However, since multivariate regression analyses were not performed in both studies, the effect of father's unemployment and family income level was not revealed independently of other variables.

In this study, it was determined that adolescents who were exposed to violence in the family (\bar{X} =39.4) had tendency to violence (not exposed \bar{X} =33.2), and their empathy levels and self-esteem were low (Table 1-2). A similar study found that adolescents who were exposed to violence by their mother or father had an

increased level of tendency to violence [4]. Adolescent's experience of this in childhood may make him prone to violence as a learned behaviour [5]. In a systematic review, it has been stated that the family has an effective role in the empathic tendency of adolescents and their adaptation to society [32]. In a study, it found that adolescents with a democratic family environment had a low tendency to violence [5]. In the study by Yıldız & Erci (2011), it was determined that the attitudes of parents significantly affected the attitudes and behaviours of the adolescent [25]. It can be thought that the positive family environment increases self-esteem and empathic tendency by providing the opportunity to express the feelings and thoughts of the adolescent, thereby decreasing tendency to violence.

It was found in this study that adolescents' tendency to violence decreased, as the level of liking school and school performance increased, which was found to be a factor associated with increased self-esteem and empathic tendency (Table 1-2). In a study conducted in secondary schools in Izmir, it was found that as the level of loyalty of students to school decreased (disliking school), the level of tendency to violence increased [19]. In a study conducted among high school students in the same city, it was observed that students with low school performance had more aggressive behaviours than those who were successful [22]. In a study, it was determined that performanceful adolescents perceive the school as a key in their upbringing as a productive and beneficial individual, so they were compatible with their friends and teachers, and their self-esteem and empathic tendency were high [33]. Another study found that students who were loved by their friends and who received support from their parents and teachers had a low tendency to violence [24]. Liking school by the adolescent depends on love, respect and support in this environment. A supportive school environment should be considered as a factor that increases the performance of the student and decreases tendency to violence.

In this study, there was a positive correlation between tendency to violence and watching TV ($r=0.176$) and playing game on the computer ($r=0.205$) both in the correlation and Anova test, while time spent playing on the computer was not statistically significant in the multivariate LR analysis (Table 1-3). However, violence is frequently witnessed on the screen as a result of

using these tools for a long period of time. Seeing violent incidents as a role model and normalization of violent incidents by the adolescent increase tendency to violence while weakening empathic skills [34]. Digital media can also create an environment for resorting to violence. However, since the using digital media times of the students participated in this study were mostly low, there may not be a risk in this respect.

5. CONCLUSIONS

According to the results of the study, early adolescents have a moderate level of tendency to violence and are in the disadvantaged group.

Adolescents with low empathic levels and low self-esteem were more tendency to violence. Among the adolescents, those who are male, do not like school, and whose parents perceive their school performance as inadequate have a higher tendency to violence.

CONSENT

The students and their parents were informed about the health screenings forms and their written consents were obtained.

ETHICAL APPROVAL

Institution permit was obtained for the students to be able to practice at schools. Health screenings were carried out under the supervision of the school's guidance and psychological counselling unit. The approval for using the data in the forms filled was obtained from the Yozgat Bozok University Ethics Committee (decision date: 17.06.2020, number: 11/06). All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2013.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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