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Examination of the Aggression Levels of Physical Education and Sport School Students

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Abstract

The purpose of this research is to determine the level of aggression of students in different departments of physical education and sports school and to compare the aggression levels according to some demographic characteristics. The universe of your research is to constitute students who study in different departments of Bozok University Physical Education and Sports School in 2017-2018 academic years. The sample of the research consists of a total of 300 students who are identified by random sampling technique among the students studying in different departments at Bozok University Physical Education and Sports School in 2017-2018 academic year. Survey method was used in the research. Information on the demographic characteristics of the students was obtained through the "personal information form". Information on how to determine the level of aggression of the students was obtained with the "Buss Perry Aggression Scale". The obtained data were transferred to the SPSS 18 software program for statistical analysis. Frequency analysis, percentage analysis, arithmetic mean, t test, Anova analysis and post hoc tests were used in analyzing the data. As a result of the analyzes; statistically significant differences were found between aggression levels of students according to age, education department and monthly expenditure variables ($p < 0.05$). There were no statistically significant differences according to gender, shelter status, maternal employment status, mother education level, father education level and sibling number ($p > 0.05$).

Keywords: Aggression, Sport, Student.

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Contents

1. Introduction

Aggression can be generally defined as an individual's or group's behaviors that aims to harm others (Doğan and Moralı, 1999). According to Baron and Byrne (1994) aggression involve deliberate behaviors that result in physically and psychologically harmful effects. Aggression was also interpreted as an external sign of anger which tries to destroy an object or an individual (Cliford, 1986). It is possible to mention aggression or aggressive behaviors when an individual displays behaviors that aim to directly or indirectly damage a living organism (Peter and Beyer, 1997) which may also be related to instrumental and emotional reasons (Krishnaveni and Shahin, 2014).

According to Bryant and Mcelroy (1997) causes of aggressive behaviors can be categorized into three groups. The first group is instinctual (biological cause) aggression, which suggests that all people have aggressive traits and their oppressed energy can be relieved via different activities. The second group consists of disappointment and aggression (psychological cause), which argues that an individual may display aggressive behaviors because of disappointment and frustration. Finally, the last group is learned behavior (sociological cause), which maintains that a person is not innately aggressive and aggression emerges as a result of socialization (Bandura *et al*., 1963).

Buss (1961) divided aggression into three dimensions as a) physical or verbal aggression b) active or passive aggression and c) direct or indirect aggression. While pushing and pulling, oppressing, hitting, biting are given as examples of physical aggression, hurting someone's feelings and psychological state through verbal communication is considered as verbal aggression. Active aggression is a goal-oriented behavior, and the aggressor aims to hurt victim's feelings or cause suffering. On the other hand, passive aggression, which is the opposite of active aggression, aims to prevent somebody from achieving their goals rather than giving them active damage. Direct aggression is observed when an individual tries to directly send harmful stimuli that would provoke or irritate others, while indirect aggression results from sending harmful stimuli through hints (Walker and Richardson, 1998). Buss and Perry concluded that physical, verbal and indirect aggression involved behaviors that "hurt or damage an individual" and stated that these aggression types represented the behavioral component of aggression. Anger involved "physiological stimulation and preparation for aggression" and represented emotional component of aggression. Finally, hostile aggression involved "mercilessness and unfairness" and represented cognitive component of aggression (Felsten and Hill, 1999).

A systematic approach at a psychological and social level may be adopted to minimize aggression, irrespective of its degree (Krishnaveni and Shahin, 2014). Aggressive emotions and behaviors can be reduced thanks to anger management and role model applications.

Aggressive and angry behaviors have become an important social problem, which definitely require early intervention for an effective solution. In this respect, it is of vital importance to develop programs addressing children, adolescents and young adults. Programs aiming the prevention of aggression may contribute to students' healthy development and help them easily cope with various problems, particularly prior to or during early adolescence. Such programs will also provide them with a more successful character, which will pave the way for a highly qualified and peaceful society.

The present study aims to determine levels of aggression among students at different departments at School of Physical Education and Sports and compare their levels of aggression based on some demographic features to offer solutions. Within this framework, the following research questions will be answered:

- What are the levels of aggression among students at different departments at School of Physical Education and Sports?

- Is there a statistically significant difference among students' level of aggression in terms of gender?
- Is there a statistically significant difference among students' level of aggression in terms of age?
- Is there a statistically significant difference among students' level of aggression in terms of residence type?
- Is there a statistically significant difference among students' level of aggression in terms of academic department?
- Is there a statistically significant difference among students' level of aggression in terms of mother's employment status?
- Is there a statistically significant difference among students' level of aggression in terms of mother's education level?
- Is there a statistically significant difference among students' level of aggression in terms of father's education level?
- Is there a statistically significant difference among students' level of aggression in terms of monthly expenses?
- Is there a statistically significant difference among students' level of aggression in terms of number of siblings?

2. Material and Methods

The population, sample, data collection tools and data analysis of the present study are given in this section.

2.1. The Population and Sample of the Study

The population of the present study is comprised of students at different departments at School of Physical Education and Sports at University of Yozgat Bozok during 2017-2018 academic year. The sample is comprised of 300 students who were selected using convenience sampling method among students at different departments at School of Physical Education and Sports at University of Yozgat Bozok during 2017-2018 academic year.

2.2. Data Collection Tools

Questionnaire, which is a primary source research, was used as a data collection tool to conduct the present study due to its cost-effectiveness, feasibility and suitability for collecting information from dispersed and large

masses within a short time. A personal information form was used to identify students' demographic features. Finally, "Buss-Perry Aggression Scale" was used to determine students' views on aggressive behaviors.

2.2.1. Buss Perry Aggression Scale

Buss Perry aggression scale (Buss and Perry, 1992) is a five-point Likert type scale (1- Absolutely Inappropriate, 2- Slightly Inappropriate, 3- Slightly Appropriate, 4- Appropriate 5- Absolutely Appropriate) consisting of four sub-dimensions (physical aggression, anger, hostility and verbal aggression) and 29 items. The scale was adapted to Turkish context and tested for its reliability and validity by Madran (2012). It measures four different sub-dimensions of aggression listed as physical aggression, verbal aggression, anger and hostility.

In this questionnaire, 9 questions (13, 8, 2, 11, 25, 16, 29, 22, 5) are asked in the sub-dimension of physical aggression to measure the tendency to give physical damage to others, 5 questions are asked (27, 6, 21, 14, 4) in the sub-dimension of verbal aggression to measure the tendency to hurt others verbally, 7 questions (19, 28, 1, 18, 9, 23, 12) are asked in the sub-dimension of anger to measure emotional aspect of aggression, and, finally, 8 questions (20, 24, 3, 7, 26, 10, 15, 17) are asked in the sub-dimension of hostility to measure cognitive aspect of aggression. 9th and 16th items in this scale are reverse coded. In Turkish version of Buss Perry aggression scale, Cronbach Alpha reliability coefficient was calculated as 0.85 for the whole scale, while it was calculated as 0.78, 0.48, 0.76 and 0.71 for physical aggression, verbal aggression, anger and hostility sub-dimensions, respectively (Madran, 2012).

On the other hand, in the present study, Cronbach Alpha value was calculated as 0.90 for the whole scale. In addition, it was calculated as 0.79, 0.60, 0.76 and 0.75 for physical aggression, verbal aggression, anger and hostility sub-dimensions, respectively. A reliability coefficient ranging between .70 and .90 indicates a high level of reliability (Bagozzi and Yi, 1988; Nunnally and Bernstein, 1994). Therefore, it is evident that the scale is acceptable in terms of internal reliability coefficients.

2.3. Data Analysis

The data obtained from the present study was analyzed using SPSS 18 statistics program. First, a normality test was performed to test the suitability of the dataset. Frequency, percentage and arithmetic means analysis were used to identify students' demographic features in order to analyze data. In addition, Cronbach alpha was used to test scale reliability, t test and ANOVA analysis were used to determine differences between mean total aggression scores and mean sub-dimension scores in terms of demographic variables, and, finally, post hoc (Tukey, Tamhane 2) tests were used depending on the variance homogeneity.

Table-1. Buss Perry Aggression Scale Reliability Coefficient

Buss Perry Aggression Scale	Cronbach Alpha
Physical Aggression	0.79
Verbal Aggression	0.60
Anger	0.76
Hostility	0.75
Total Reliability	0.90

2.3.1. Normality Test

Prior to statistical analysis of the data obtained from study group, they must be prepared for analysis. To this aim, researchers must pay attention to kurtosis and skewness coefficients (Simşek, 2007). Skewness coefficient is 0 in the normal distribution. A negative skewness coefficient indicates a right-skewed distribution while a positive skewness coefficient indicates a left-skewed distribution. Similarly, kurtosis coefficient is 0 in the normal distribution. A positive kurtosis coefficient indicates a leptokurtic distribution, while a negative kurtosis coefficient indicates a platykurtic distribution (http 1). Because kurtosis and skewness coefficients vary between (+-2 and +-7), it can be stated that the data display a normal distribution (West *et al.*, 1995; Sencan, 2005; Simşek, 2007).

It was found out in the present study that skewness and kurtosis coefficient values related to the data of the present study vary between -0.011/1.103 and 0.121 / -1.355, respectively. These results demonstrate that the data display a normal distribution, and parametric tests were used in the statistical analysis.

3. Findings

Demographic features of students participating in the study are given in Table 2.

Table 2 demonstrates that 169 male (56.3%) and 131 female (43.7%) students participated in the study. While 265 students (88.3%) are aged between 18 and 22, 28 of them (9.3%) are between 23 and 27, and 7 of them (2.3%) are 28 and over. In terms of residence types, 37 students (13.3%) live with their families, 14 students (4.7%) lives with their relatives, 179 students (59.7%) live at dormitory, 22 students (7.3%) live with a flat mate, and 48 students (16.0%) live alone. While 100 students (33.3%) study physical education and sports teaching, 150 (50.0%) students study coaching education and 50 students (16.7%) study sports management. When employment status of students' mothers is analyzed, it can be observed that 31 mothers (10.3%) are employed, whereas 269 mothers (89.7%) are non-employed. As for mother's education level, 37 students' mothers (12.3%) were illiterate, 141 students' mothers (47.0%) graduated from primary school, 69 students' mothers (23.0%) graduated from secondary school, 43 students' mothers (14.3%) graduated from high school, and 10 students' mothers (3.3%) graduated from university. As for father's education level, 13 students' fathers (4.3%) were illiterate, 96 students' fathers (32.0%) graduated from primary school, 81 students' fathers (27.0%) graduated from secondary school, 84 students' fathers (28.0%) graduated from high school, and 26 students' fathers (8.7%) graduated from university. In terms of monthly expenses, 22 students (7.3%) spend 250 and less, 85 students (28.3%) spend between 251 and 500 TL, 77 students (25.7%) spend between 501 and 750 TL, 49 students (16.3%) spend between 751 and 1000 TL, and 67 students (22.3%) students spend over 1000 TL. While 221 students (73.7%) have 1 to 3 sibling(s), 58 students (19.3%) have 4 to 6 siblings, and 11 students (3.7%) have 7 to 10 siblings.

Table-2. Demographic features of students

		N	%
Gender	Male	169	56.3
	Female	131	43.7
Age	18-22	265	88.3
	23-27	28	9.3
	28 and over	7	2.3
Type of Residence	With Family	37	12.3
	With Relatives	14	4.7
	At Dormitory	179	59.7
	With (a) flat mate(s)	22	7.3
	Alone	48	16.0
Academic Department	Physical Education and Sports Teaching	100	33.3
	Coaching Education	150	50.0
	Sports Management	50	16.7
Mother's Employment Status	Employed	31	10.3
	Non-employed	269	89.7
Mother's Education Level	Illiterate	37	12.3
	Primary School	141	47.0
	Secondary School	69	23.0
	High School	43	14.3
	University	10	3.3
Father's Education Level	Illiterate	13	4.3
	Primary School	96	32.0
	Secondary School	81	27.0
	High School	84	28.0
	University	26	8.7
Monthly Expenses	250 TL and less	22	7.3
	251 TL – 500 TL	85	28.3
	501 TL – 750 TL	77	25.7
	751 TL – 1000 TL	49	16.3
	1001 TL and more	67	22.3
Number of Siblings	No siblings	10	3.3
	1-3 sibling(s)	221	73.7
	4-6 siblings	58	19.3
	7-10 siblings	11	3.7

Mean total aggression scale scores based on the answers given in the questionnaire are given in Table 3.

Table-3. Mean Total Aggression Scale Scores

Aggression Scale	N	Minimum	Maximum	Mean	Standard Deviation
	300	33.00	131.00	78.22	20.03

When Table 3 is analyzed, it can be noted that the minimum and maximum aggression scale scores were 33 and 131, respectively, and mean score was 78.22.
Mean aggression scale scores based on different sub-dimensions of the scale are given in Table 4.

Table-4. Mean total aggression scale scores based on different sub-dimensions

Sub-dimensions of Buss Perry Aggression Scale	N	Mean Score	Standart Deviation
Physical Aggression	300	2.56	.832
Verbal Aggression	300	2.78	.752
Anger	300	2.74	.845
Hostility	300	2.75	.822

It can be observed in Table 4 indicates the highest aggression sub-dimension is verbal aggression (□=2.78).
t test findings related to mean total aggression scores and mean sub-dimension scores in terms of gender are given in Table 5.

Table-5. t test findings related to mean total aggression and mean sub-dimension scores in terms of gender

	Gender	N	Mean Score	sd	t	p
Physical Aggression	Male	169	2.63	.790	1.650	.100
	Female	131	2.47	.880		
Verbal Aggression	Male	169	2.82	.754	1.280	.202
	Female	131	2.71	.749		
Anger	Male	169	2.67	.832	-1.698	.091
	Female	131	2.83	.855		
Hostility	Male	169	2.71	.835	-.855	.393
	Female	131	2.79	.805		
Mean Total Aggression Scores	Male	169	78.30	19.79	.077	.939
	Female	131	78.12	20.42		

It can be understood from Table 5 that no statistically significant differences were observed between mean total aggression scores and mean sub-dimension scores in terms of gender (p>.05).

ANOVA test findings related to mean total aggression scores and mean sub-dimension scores in terms of age are given in Table 6.

Table-6. ANOVA test findings related to mean total aggression scores and mean sub-dimension scores in terms of age

		df	F	p
Physical Aggression	Between groups	2	3.168	.044*
	Within groups	297		
	Total	299		
Verbal Aggression	Between groups	2	1.760	.174
	Within groups	297		
	Total	299		
Anger	Between groups	2	6.493	.002**
	Within groups	297		
	Total	299		
Hostility	Between groups	2	3.446	.033*
	Within groups	297		
	Total	299		
Mean Total Aggression Scores	Between groups	2	4.791	.009**
	Within groups	297		
	Total	299		

*p<.05, **p<.01

It can be understood from Table 6 that significant differences were observed among mean total aggression scores and in the sub-dimensions of physical aggression, anger and hostility in terms of age (p<.05).

Multiple comparison test results for the significant difference related to mean total aggression scores and mean sub-dimension scores in terms of age are given in Table 7.

Table-7. Multiple comparison test results for the significant difference related to mean total aggression scores and mean sub-dimension scores in terms of age

	Age		Mean Difference	Standard Error	p
Physical Aggression	28 and over	18-22	-.78	.31	.036
		23-27	-.82	.34	.048
Anger	28 and over	18-22	-1.09	.31	.002
		23-27	-.89	.35	.035
Hostility	28 and over	18-22	-.74	.31	.048
MeanTotal Aggression Scores	28 and over	18-22	-23.25	7.57	.007
		23-27	-21.07	8.36	.033

According to Table 7, a statistically significant difference was found between students aged 28 and over and those aged between 18-22 and 23-27 when it comes to the sub-dimensions of physical aggression and anger as well as mean total aggression scores (p<.05). This difference is in favor of those aged between 18-22 and 23-27. In the sub-dimension of hostility, statistically significant differences were found between students aged between 28 and over and those aged between 18 and 22 (p<.05). This difference is in favor of those aged between 18 and 22. Aggression level of students aged 28 and over is lower.

ANOVA test findings related to mean total aggression scores and mean sub-dimension scores in terms of residence type are given in Table 8.

Table-8. ANOVA test findings related to mean total aggression scores and mean sub-dimension scores in terms of residence type

		df	F	p
Physical Aggression	Between groups	4	.755	.555
	Within groups	295		
	Total	299		
Verbal Aggression	Between groups	4	.794	.530
	Within groups	295		
	Total	299		
Anger	Between groups	4	1.453	.217
	Within groups	295		
	Total	299		
Hostility	Between groups	4	.752	.558
	Within groups	295		
	Total	299		
Mean Total Aggression Scores	Between groups	4	1.055	.379
	Within groups	295		
	Total	299		

*p<.05, **p<.01

It can be understood from Table 8 that no statistically significant differences were observed between mean total aggression scores and mean sub-dimension scores in terms of residence type (p>.05).

ANOVA test findings related to mean total aggression scores and mean sub-dimension scores in terms of academic department are given in Table 9.

Table-9. ANOVA test findings related to mean total aggression scores and mean sub-dimension scores in terms of academic department

		df	F	p
Physical Aggression	Between groups	2	3.698	.026*
	Within groups	297		
	Total	299		
Verbal Aggression	Between groups	2	.226	.798
	Within groups	297		
	Total	299		
Anger	Between groups	2	4.451	.012*
	Within groups	297		
	Total	299		
Hostility	Between groups	2	2.171	.116
	Within groups	297		
	Total	299		
Mean Total Aggression Scores	Between groups	2	3.240	.041*
	Within groups	297		
	Total	299		

*p<.05, **p<.01

Table 9 demonstrates that significant differences were observed among mean total aggression scores and in the sub-dimensions of physical aggression and anger in terms of academic department (p<.05).

Multiple comparison test results for the significant difference related to mean total aggression scores and mean sub-dimension scores in terms of academic department are given in Table 10.

Table-10. Multiple comparison test results for the significant difference related to mean total aggression scores and mean sub-dimension scores in terms of academic department

	Academic Department		Mean Difference	Standard Error	p
Physical Aggression	Coaching Education	Sports Management	.31	.13	.050
Anger	Coaching Education	Sports Management	.40	.13	.013
Mean Total Aggression Score	Coaching Education	Sports Management	8.21	3.24	.032

According to Table 10, statistically significant differences were found between students studying coaching education and sports management when it comes to the sub-dimensions of physical aggression and anger as well as mean total aggression scores (p<.05). This difference is in favor of students studying coaching education, whose level of aggression is higher.

t test findings related to mean total aggression scores and mean sub-dimension scores in terms of mother's employment status are given in Table 11.

Table-11. t test findings related to mean total aggression scores and mean sub-dimension scores in terms of mother's employment status

	Employment Status	N	Mean Score	sd	t	p
Physical Aggression	Employed	31	2.72	.770	1.080	.281
	Non-employed	269	2.54	.839		
Verbal Aggression	Employed	31	2.76	.779	-.101	.920
	Non-employed	269	2.78	.751		
Anger	Employed	31	3.02	.853	1.944	.053
	Non-employed	269	2.71	.840		
Hostility	Employed	31	2.79	.773	.315	.753
	Non-employed	269	2.74	.828		
MeanTotal Aggression Scores	Employed	31	81.83	19.9 93	1.061	.290
	Non-employed	269	77.80	20.038		

It can be understood from Table 11 that no statistically significant differences were observed between mean total aggression scores and mean sub-dimension scores in terms of mother's employment status (p>.05).

ANOVA test findings related to mean total aggression scores and mean sub-dimension scores in terms of mother's education level are given in Table 12.

Table-12. ANOVA test findings related to mean total aggression scores and mean sub-dimension scores in terms of mother's education level

		df	F	p
Physical Aggression	Between groups	4	1.751	.139
	Within groups	295		
	Total	299		
Verbal Aggression	Between groups	4	.827	.509
	Within groups	295		
	Total	299		
Anger	Between groups	4	1.160	.329
	Within groups	295		
	Total	299		
Hostility	Between groups	4	.734	.570
	Within groups	295		
	Total	299		
Mean Total Aggression Scores	Between groups	4	1.183	.318
	Within groups	295		
	Total	299		

*p<.05, **p<.01

It can be understood from Table 12 that no statistically significant differences were observed between mean total aggression scores and mean sub-dimension scores in terms of mother's education level (p>.05).

ANOVA test findings related to mean total aggression scores and mean sub-dimension scores in terms of father's education level are given in Table 13.

Table-13. ANOVA test findings related to mean total aggression scores and mean sub-dimension scores in terms of father's education level

		df	F	p
Physical Aggression	Between groups	4	1.798	.129
	Within groups	295		
	Total	299		
Verbal Aggression	Between groups	4	.945	.438
	Within groups	295		
	Total	299		
Anger	Between groups	4	1.043	.385
	Within groups	295		
	Total	299		
Hostility	Between groups	4	.235	.918
	Within groups	295		
	Total	299		
Mean Total Aggression Scores	Between groups	4	1.049	.382
	Within groups	295		
	Total	299		

*p<.05, **p<.01

It can be understood from Table 13 that no statistically significant differences were observed between mean total aggression scores and mean sub-dimension scores in terms of father's education level (p>.05).

ANOVA test findings related to mean total aggression scores and mean sub-dimension scores in terms of monthly expenses are given in Table 14.

Table-14. ANOVA test findings related to mean total aggression scores and mean sub-dimension scores in terms of monthly expenses

		df	F	p
Physical Aggression	Between groups	4	2.839	.025*
	Within groups	295		
	Total	299		
Verbal Aggression	Between groups	4	3.337	.011*
	Within groups	295		
	Total	299		
Anger	Between groups	4	1.062	.376
	Within groups	295		
	Total	299		
Hostility	Between groups	4	1.561	.185
	Within groups	295		
	Total	299		
Mean Total Aggression Scores	Between groups	4	2.008	.093
	Within groups	295		
	Total	299		

*p<.05, **p<.01

It can be understood from Table 14 that statistically significant differences were observed in the sub-dimensions of physical and verbal aggression in terms of monthly expenses (p>.05).

Multiple comparison test results for the significant difference related to mean total aggression scores and mean sub-dimension scores in terms of monthly expenses are given in Table 15.

Table-15. Multiple comparison test results for the significant difference related to mean total aggression scores and mean sub-dimension scores in terms of monthly expenses

	Monthly Expenses		Mean Differences	Standard Error	p
Physical Aggression	1001 TL and more	250 TL and more	.57	.20	.037
Verbal Aggression	1001 TL and more	250TL–500 TL	.40	.12	.008

According to Table 15, a statistically significant difference was found between students spending 1001 TL and more and those spending 250 and less when it comes to the sub-dimension of physical aggression ($p<.05$). This difference is in favor of those spending 1001 TL and more. In the sub-dimension of verbal aggression, a statistically significant difference was found between those spending 1001 TL and more and those spending 250 TL and less ($p<.05$). This difference is in favor of those spending 1001 TL and more. Both physical and verbal aggression of those spending 1001 TL and more are higher.

ANOVA test findings related to mean total aggression scores and mean sub-dimension scores in terms of number of siblings are given in Table 16.

Table-16. ANOVA test findings related to mean total aggression scores and mean sub-dimension scores in terms of number of siblings

		sd	F	p
Physical Aggression	Between groups	3	.389	.761
	Within groups	296		
	Total	299		
Verbal Aggression	Between groups	3	.570	.635
	Within groups	296		
	Total	299		
Anger	Between groups	3	.812	.488
	Within groups	296		
	Total	299		
Hostility	Between groups	3	2.712	.051
	Within groups	296		
	Total	299		
Mean Total Aggression Scores	Between groups	3	1.246	.293
	Within groups	296		
	Total	299		

*p<.05, **p<.01

It can be understood from Table 16 that no significant differences were observed between mean total aggression scores and mean sub-dimension scores in terms of number of siblings ($p>.05$).

4. Discussion

The present study aims to determine levels of aggression among students at different departments at School of Physical Education and Sports and compare their levels of aggression based on some demographic features to offer solutions. The sample of the study is comprised of 300 students studying at different departments at School of Physical Education and Sports at University of Yozgat Bozok.

The study demonstrated that the minimum and maximum aggression scale scores were 33 and 131, respectively, and the mean score was 78.22. These findings suggest that students do not display highly aggressive behaviors. In terms of sub-dimensions, it can be stated that they mostly display verbal aggression ($\bar{x}=2.78$). It can be argued that individuals who are actively involved in sports can manage their self-control and, as a result, they are able to avoid aggressive behaviors. In a study on students at a school of physical education and sports, Sam (2014) observed no significant differences between active involvement in sports and aggression. Alp *et al.* (2014) too, found a similar result in a study on university students. In addition, Dervent *et al.* (2010) and Kırımoğlu *et al.* (2008) obtained similar findings in their respective studies. Therefore, the findings in the present study overlap previous studies in the literature.

In the present study, no statistically significant differences were observed between mean total aggression scores and mean sub-dimension scores in terms of gender ($p>.05$). It is often considered that boys are observed to particularly display more aggressive behaviors compared to girls in traditionally patriarchal families in Turkish society and that boys are likely to reinforce their aggressive behaviors while girls mostly tend to oppress similar behaviors. In a study on the aggression level of students at school of physical education and sports from a socio-demographic perspective, Erşan *et al.* (2009) found no significant differences between male and female students in terms of aggressive behaviors. Studies by Allen *et al.* (1996); Werner and Crick (1999); Björkqvist *et al.* (1992); Yalçın (2007); Ağlamaz (2006) and Karataş (2005) did not find any significant correlation between gender and aggression, which comply with the findings of the present study. Numerous studies focusing on different socio-cultural structures and conducted in Turkey and abroad obtain varying levels of aggression and report that males tend to display more aggressive behaviors compared to females. Similarly, Amedahe and Owusu-Banahene (2007); Berkowitz (1993); Conner *et al.* (2003); Goldstein and Tisak (2004); Scharf (2000); Aral *et al.* (2004); Eroğlu (2009); Günaydın (2008); Oztürk (2008); Uğur (2013); Cansever (2017); Bostancı *et al.* (2017) and Celik (2006) observed that males had a higher level of aggression compared to females. Therefore, the findings of the present study do not overlap these studies.

The present study indicated statistically significant differences between mean total aggression scores and the sub-dimensions of physical aggression, anger and hostility in terms of age ($p<.05$). It was observed that students aged 28 and over had a lower level of aggression compared to those aged between 18 and 22 as well as 23 and 27. In this respect, it can be argued that maturity improves an individual's communication skills, and increases their empathy and life experience, which positively influences aggressive behaviors. Tazegül *et al.* (2011) and Aksoy

(2017) also reported that ageing influenced level of aggression. Bahadır and Erdoğan (2016) however, demonstrated that aggressive behaviors increased in direct proportion to ageing. Thus, the findings of the present study overlap. Erşan *et al.* (2009) divided participants into two age groups as over 21 and under 21 and observed no significant differences between these groups. Kafalı *et al.* (2017) obtained a similar result in their study on athletes performing individual and team sports. Erdogdu and Oto (2004) on the other hand, stated that ageing was directly proportional to aggressive behaviors. Therefore, the findings of the present study differ from these studies.

The present study found no statistically significant differences between mean total aggression scores and mean sub-dimension scores in terms of residence type ($p>.05$). No significant differences were observed between students who live with their families and who left their families to live with a flat mate or alone in terms of level of aggression. Variables such as economic status, residence type, residence location and socio-economic status of the family are indicators of life quality. Additionally, poor residence and study facilities as well as inadequate family conditions and environment heavily influence a student's success. Social circle, too, occupies an important position in the characterization of an individual's life during adolescence and youth. In this respect, it is evident that residence problems may cause students to display aggressive behaviors. However, no related results have been so far obtained in the literature.

The present study observed statistically significant differences between mean total aggression scores and the sub-dimensions of physical aggression and anger in terms of academic department ($p<.05$). It was found out that students studying coaching education had a higher level of aggression compared to those studying sports management. Despite various acceptance methods, students who wish to study sports management usually take a university exam to enroll in this department. On the other hand, students who wish to study coaching education need to take sportive talent exams for enrollment. Therefore, it is safe to argue that these students tend to display more physically and verbally aggressive behaviors due to their continuous active involvement in sports throughout the years and competitive nature of their department as well as their constant ambition to win. Given that the main reasons underlying aggressive behaviors in sports activities are anger and hostility, such a finding is not surprising. Kula (2008) found a statistically significant difference among students' level of aggression in terms of their academic departments, which overlaps the present study. On the other hand, Erden (2007) found no significant differences among students' level of aggression in terms of their academic departments, which differ from the present study.

In the present study, no statistically significant differences were observed between mean total aggression scores and mean sub-dimension scores in terms of mother's employment status ($p>.05$). Therefore, it can be suggested that whether a mother has a job or not does not influence a student's level of aggression. Similarly, a study on the analysis of emphatic tendencies and levels of aggression among different high school students (a case study in Kartal, Turkey) by Filiz (2009) a study on the relationship between levels of desperation and aggression among students at industrial vocational high schools by Kula (2008) a study on students' levels of aggression in terms of their self-esteem and other variables during late childhood by Yavuz (2007) and a study on the multidimensional analysis of levels of aggression among students at industrial vocational high schools by (Yılmaz, 2008) did not find any significant differences between levels of aggression and mother's employment status.

In the present study, no statistically significant differences were observed between mean total aggression scores and mean sub-dimension scores in terms of mother's and father's education level ($p>.05$). Parents' education level is an important factor that affects their communication and relationship with children and shapes the way in which they raise their children. Yıldırım (2017) reported that parents' attitudes towards their children influence their level of aggression. It is quite likely that children who are exposed to domestic violence and physical assault in their family environment will display more aggressive behaviors in the future. Parents' child rearing techniques, attitudes towards their children, and problem-solving skills bear utmost importance. The reason why the present study found no significant differences between students' level of aggression and mother's and father's education level stem from the fact that these parents adopted traditional child rearing methods. This is because parents' love, attention and affection towards their children will be more effective compared to their education level, and children consider their parents' as role models. While various studies reported no significant correlation between parents' education level and their children's level of aggression (Gürsoy, 2002; Ayan, 2007; Oz, 2007; Omay, 2008; Cengiz, 2010) some researchers found out a correlation between parents' education level and level of aggression (Güner, 1995; Dizman, 2003; Aral *et al.*, 2004).

The findings of the present study indicated statistically significant differences in the sub-dimensions of physical and verbal aggression in terms of monthly expenses ($p<.05$). It was observed that students spending 1001 TL and more had a higher level of aggression. This can be related to the fact that students with a higher economic status can easily fulfill their wishes and display physical and verbal aggression when they are not able to get what they wish to have. Güner (1995) and Gündoğdu (2010) too, report findings similar to those the present study.

In the present study, no statistically significant differences were observed between mean total aggression scores and mean sub-dimension scores in terms of number of siblings ($p>.05$). In a similar vein, Yıldız (2009); Kılıçaslan (2009) and Bostancı *et al.* (2017) did not find any significant correlation between number of siblings and level of aggression. The findings of the present study also overlap those in the literature. However, when mean total aggression scores are analyzed, a directly proportional correlation can be found between number of siblings and level of aggression. A high number of siblings mean that children will need to share their objects, money and facilities with others. In addition, elderly siblings usually take more responsibilities within the family, which may lead to some aggressive behaviors in these individuals. As a result, aggressive and violent behaviors result from some socio-psychological conditions.

Based on the findings of the present study, the following recommendations can be made:

- Reasons underlying aggressive behaviors should be analyzed in detail and necessary precautions should be taken in order to prevent them.
- Every child and adolescent should receive education based on sportive virtue and ethics during their childhood and adolescence.

- All units and officials in the sports including administrators and coaches should be informed about aggression and violence, and receive education if necessary.
- Students who are actively involved in sports should be encouraged to behave ethically and sanctions should be imposed upon those who display aggressive behaviors.
- New programs should be broadcast on TV and other visual media to promote ethical and moral behaviors and implementations.

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