SOCIAL APPEARANCE ANXIETY AND LEISURE TIME EXERCISE LEVEL OF HIGH SCHOOL STUDENTS

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Abstract:

The aim of this study is to determine the Social Appearance Anxiety (SAA) and Leisure Time Exercise (LTE) levels of high school students according to school type, gender, sports license and grade levels and to find the correlation between SAA and LTE. 2383 high school students participate the study from 3 different cities. Data were collected using SAAS developed by Hart et al. (2008) was translated into Turkish by Doğan (2010) and LTEQ developed by Godin and Sheppard (1985 and 1997) was translated into Turkish by Lapa et al. (2016). As a result of the analysis, a significant difference was found between high school male and female students in terms of LTE. The research has shown that the SAA and LTE levels of vocational high school students are higher than Science and Anatolian high school students. In addition, 12th grade high school students have the lowest LTE level and the highest SAA level compared to other grades.

Keywords: social appearance anxiety, leisure time exercise, high school students

1. Introduction

Today, individuals of all ages, especially youngsters, are more sensitive to their physical appearance. One of the main characteristics of adolescence is that they attach great importance to their appearance. Adolescence is the period when acceptance by peer groups gains importance and youngsters realize how important the impressions they make on others are. It can be said that changes occur in this period may cause anxiety in

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adolescent, especially body images, social relations and negative situations regarding performance will trigger anxiety in youngsters. Adolescents' ability to make a healthy transition to adulthood, to fulfill the developmental tasks of adolescence and thus to create a satisfying lifestyle can be associated with social appearance anxiety. Naturally, each individual wish to be evaluated in the best manner by the others and desires to have positive body image. Individuals without positive body images have increased anxiety which affects their life styles negatively (Leary and Kowalski, 1995).

Social appearance anxiety (SAA) is defined "*as the fear that arises when one's overall appearance is being evaluated including, but not limited to, body shape. SAA is a concept that consist of personal characteristics such as complexion (skin color) and shape of the face (the nose, distant between the eyes, smile etc.) in addition to the general physical appearance including height, weight and muscular structure*" (Hart et al., 2008). The SAA was created to measure assessment fears regarding general appearance rather than body alone.

Regular physical activities have a positive effect on the physical and psychological well-being of the individuals (Aşçı, 2002). Exercise is a way individuals use to improve their physical appearance, and is also a critical factor for those who focus their attention on their physical appearance. As Ballı and Aşçı (2006) reported, the anxiety felt by the person due to his/her appearance may affect the participation in physical activity and the choice of physical activity (Spink, 1992).

Today, technological changes have affected the youngsters in the types and levels of physical activity in their social, work and school life. According to WHO reports, in 2020, more than 80% of the world's adolescent population is physically inactive enough. WHO recommends vigorous aerobic activities at least 3 days a week for adolescents and moderate to vigorous physical activity an average of 60 minutes per day throughout the week.

Activities such as jogging, basketball, football, brisk walking, cycling, volleyball, which include sports activities, can be considered as leisure physical activities (Godin and Shephard, 1985). Leisure time exercise (LTE) is defined as "*an activity undertaken in the individuals' discretionary time that increases the total energy expenditure*" (Bouschand, Blair, Haskell, 2007). Physical activity is an effective way to deal with stress. Youngsters can manage stress much easier and more effectively when they do and continue with their free time exercises (Decamps, Boujut and Brisset, 2012). Despite the well-recognized all benefits of physical activity childrens' involvement in physical activity declines during adolescence (Diehl and Hilger, 2016).

In line with this emphasis on physical appearance and exercise in adolescence, we believe that this study contributes to the literature by providing information on these issues, as current research focuses on the SAA and LTE of high school students from different school types and sports backgrounds. The main purpose is to determine the SAA and LTE of high school students according to some variables and to reveal whether there is a significant relationship between them.

2. Materials and Methods

2.1 Participants

This study examines SAA and LTE in large adolescence sample at three different cities and school types. These school types are; Anatolian high schools, Vocational high schools and Science high schools. According to Turkish educational system after the middle school, students enter National Exam for high schools. According to the score they receive, they enroll high schools. Science schools are for students who receive the highest scores, then comes Anatolian High schools and students who receive the lowest scores are replace to Vocational High schools. The total number of participants was 2383, 665 of them from Science High Schools, 964 from Anatolian High Schools and 754 from Vocational High Schools. Participation of study was voluntary. Ethical approval was received from the University Ethics Committee prior to the study and also approval form Ministry of Educational Board was obtained too. Form and questionnaires then distributed to high schools by researchers.

2.2 Instrument

Social Appearance Anxiety Scale (SAAS), developed by Hart et al. (2008) and adapted to Turkish by Doğan (2010) was used in this study. This scale is self-report type and has one dimension. In scale there are 16 items and first item is converted. Internal consistency of the scale is found to be 0.93. It is 5 point Likert type scale which rates between not appropriate to at all to completely appropriate. The lowest score obtained is 16, and the highest score is 80. High score indicates high level of anxiety.

Leisure Time Exercise Questionnaire (LTEQ) developed by Godin and Shephard (1985 and 1997) and adapted to Turkish by Lapa, Certel, Kaplan and Yağar (2016). This questionnaire is found to be valid and reliable instrument determining the leisure time physical activity level of adolescents. The LTEQ seeks information on the number of times, some engages in mild (minimal effort), moderate (not exhausting) and strenuous (heart beats rapidly) at least 15 min. Typical duration is the 7 days period. Each frequency score is multiplied by a corresponding metabolic equivalent of task value and the total exercise score (TES) is calculated by the formula:

$$TES = 3*(mild) + 5*(moderate) + 9*(strenuous).$$

If TES is over than 24, it indicates that the individuals are highly active. If they are in the 14-23 range, individuals are moderately active, and if they are under 14, that means individuals are not active.

2.3 Data Analysis

The first step in determining the LTE and SAA levels of high school students was to examine whether the scores students received on the scales were normally distributed. For this purpose, Kolmogorov-Smirnov values of the scores were checked. High school

students LTE and SAA scores did not show a normal distribution. Therefore, the LTE and SAA scores of the students were analyzed with the Mann Whitney U test and the Kruskal Wallis test. In order to analyze correlation between SAA and LTE levels, Pearson Product Moment Correlation Coefficient test was utilized.

3. Results

The social appearance anxiety level and Leisure time exercise of high school students' mean values was computed and found to be $\overline{X}_{SAA}$ = 31.42 and $\overline{X}_{LTE}$ = 24.97 respectively.

Table 1: Kruskal Wallis test results of students' SAA and LTE scores according to school type

	School Type	N	$\overline{X}$ ± SD	χ^2	p
Leisure Time Exercise	Science High School	665	22.60 ± 19.94	71.604	0.000*
	Anatolian High School	964	22.55 ± 18.28		
	Vocational High School	754	30.16 ± 22.06		
	Total	2383	24.97 ±20.30		
Social Appearance Anxiety	Science High School	665	30.17 ± 13.11	42.207	0.012*
	Anatolian High School	964	31.05 ± 13.03		
	Vocational High School	754	33.01 ±20.30		
	Total	2383	31.42 ±13.03		

* p < 0.05

In Table 1, SAA level of students were analyzed according to school types. A significant difference among schools was found ($\chi^2_{(2,2383)}$ = 42.207, p < 0.05). Similarly, when the LTE levels are examined, a significant difference was found between schools. ($\chi^2_{(2,2383)}$ = 71.604, p < 0.05). According to LTEQ criteria, both Science and Anatolian High School students are recognized as medium level active while vocational high school students are recognized as an active. Vocational high school students had the highest score for both SAA and LTE levels. Mann Whitney U test was conducted to find out where the difference comes from.

The findings in Table 2 show that there is a significant difference between Science High School and Vocational High School, Science High School and Anatolian High School and Anatolian High School and Vocational High School according to the SAA level.

While the LTE level of the Science High School and Vocational High School and Anatolian High School and Vocational High School students differed significantly, the Science High School and Anatolian High School students did not show a significant difference.

Table 2: Mann Whitney U test results of students' SAA and LTE scores according to school type

	School Type	N	Mean Rank	Sum of Ranks	U	z	p
Leisure Time Exercise	Science High School	665	626.60	416689.50	195244.50	-7.211	0.000*
	Vocational High School	754	783.56	590800.50			
Social Appearance Anxiety	Science High School	665	637.39	423867.50	292422.50	-6.273	0.00*
	Vocational High School	754	774.04	583622.50			
Leisure Time Exercise	Science High School	665	804.06	534698.50	313253.50	-7.810	0.435
	Anatolian High School	964	822.55	792936.50			
Social Appearance Anxiety	Science High School	665	787.04	523381.50	303136.50	-1.994	0.046*
	Anatolian High School	964	834.29	804253.50			
Leisure Time Exercise	Anatolian High School	964	780.55	752449.50	287319.50	-7.469	0.000*
	Vocational High School	754	960.44	724171.50			
Social Appearance Anxiety	Anatolian High School	964	809.60	780455.00	315325.00	-4.717	0.000*
	Vocational High School	754	923.30	96166.00			

* $p < 0.05$

Table 3: Mann Whitney U test results of students' SAA and LTE scores according to gender

	Gender	N	Mean Rank	Sum of Ranks	U	z	p
Leisure Time Exercise	Female	1178	1128.56	1329442.50	635011.50	-4.457	0.000*
	Male	1205	1254.02	1511093.50			
Social Appearance Anxiety	Female	1178	1193.86	1406367.50	707553.50	-1.31	0.896
	Male	1205	1190.18	1434168.50			

* $p < 0.05$

Table 3 shows a significant difference between male and female students in terms of leisure exercise level. The average leisure time exercise for female students was found to be $\overline{X}_{LTE,f} = 22.64$ while for male students this score was found to be $\overline{X}_{LTE,m} = 27.25$.

Table 4: Mann Whitney U test results of students'
SAA and LTE scores according to school sport license

	School License	N	Mean Rank	Sum of Ranks	U	z	p
Leisure Time Exercise	Yes	378	1717.42	649186.50	180334.50	-16.212	0.000*
	No	2005	1092.94	2191349.50			
Social Appearance Anxiety	Yes	378	1117.84	412542.00	350911.00	-2.286	0.022*
	No	2005	1205.98	2417994.00			

* $p < 0.05$

Social appearance scores of students did not differ according to gender. SAA mean for female students was $\overline{X}_{SAA,f}$ = 31.10, while it was $\overline{X}_{SAA,m}$ = 31.74 for male students.

Table 4 reveals that there is a significant difference in SAA scores of students with and without a school sports license (SSL). While the SAA score of students with SSL is $\overline{X}_{SAA,ssl}$ = 30.50, for students who do not have $\overline{X}_{SAA,no-ssl}$ = 31.60.

Similarly, LTE scores of students who have SSL is $\overline{X}_{LTE,ssl}$ = 41.76, for students who do not have $\overline{X}_{LTE,no-ssl}$ = 21.81. This shows that students who play school matches have lower SAA with higher LTE levels than students who do not play school games.

Table 5: Mann Whitney U test results of students'
SAA and LTE scores according to club sport license

	Club License	N	Mean Rank	Sum of Ranks	U	z	p
Leisure Time Exercise	Yes	563	1620.66	912430.50	2700995.50	-16.942	0.000*
	No	1820	1059.40	1928105.50			
Social Appearance Anxiety	Yes	563	1052.94	592807.50	434041.50	-5.491	0.000*
	No	1820	1235.02	2247728.50			

* $p < 0.05$

Table 5 shows that there is a significant difference at SAA scores of students who have club sport license (CSL) and who do not. SAA scores of students who have club license is $\overline{X}_{SAA,CSL}$ = 29.92 while it was $\overline{X}_{SAA,no-CSL}$ = 31.89 for students who do not have.

Similarly, LTE scores of students who have CSL is $\overline{X}_{LTE,CSL}$ = 38.78 while it was $\overline{X}_{LTE,no-CSL}$ = 20.69 for students who do not have. This indicates that students who play at clubs have lower SAA with higher LTE levels than students who do not play at club matches.

The data analysis of Table 6 shows that there is a significant difference in SAA scores of students at different class levels. Senior students have the highest level of SAA than others.

Table 6: Kruskal Wallis test results of students' SAA and LTE scores according to class level

	Class	N	$\overline{X} \pm SD$	χ^2	p
Leisure Time Exercise	9	989	23.67 ± 19.84	19.404	0.000*
	10	662	27.06 ± 20.71		
	11	464	26.39 ± 20.93		
	12	268	22.16 ± 19.25		
Total		2383	24.97 ± 20.30		
Social Appearance Anxiety	9	989	31.88 ± 13.85	10.947	0.012*
	10	662	31.53 ± 12.84		
	11	464	29.76 ±11.53		
	12	268	32.35 ± 12.62		
Total		2383	31.42 ± 13.03		

* p < 0.05

When we look at the LTE scores of students, senior students have the lowest exercise level, which means seniors do not participate exercise as much as others, that is, they are very anxious about their appearance. The Mann Whitney U test was conducted to find out where the differences coming from.

Table 7: Mann Whitney U test results of students' SAA and LTE scores according to class levels

	Class	N	Mean Rank	Sum of Ranks	U	z	p
Leisure Time Exercise	9	989	792.96	784236.00	294681.00	-3.448	0.001*
	10	662	875.36	579490.00			
Social Appearance Anxiety	9	989	824.59	815523.50	325968.50	-1.47	0.883
	10	662	828.10	548202.50			
Leisure Time Exercise	9	989	710.03	702218.50	212663.50	-2.255	0.024*
	11	464	763.17	354112.50			
Social Appearance Anxiety	9	989	741.71	733551.50	214899.50	-1.953	0.051
	11	464	695.65	322779.50			
Leisure Time Exercise	9	989	635.42	628427.00	122784.50	-1.207	0.228
	12	268	605.32	162226.00			
Social Appearance Anxiety	9	989	619.15	612339.50	122784.50	-1.849	0.064
	12	268	665.35	178313.50			
Leisure Time Exercise	10	662	569.50	377007.00	149614.00	-0.740	0.459
	11	464	554.94	257494.00			
Social Appearance Anxiety	10	662	579.74	383790.00	142831.00	-2.004	0.045*
	11	464	540.33	250711.00			
Leisure Time Exercise	10	662	485.09	321129.50	75739.50	-3.500	0.000*
	12	268	417.11	111785.50			
Social Appearance Anxiety	10	662	455.70	301676.00	822223.00	-1.749	0.080
	12	268	489.70	131239.00			
Leisure Time Exercise	11	464	382.56	77508.50	54723.50	-2.708	0.07
	12	268	338.69	90769.50			
Social Appearance Anxiety	11	464	345.81	160455.50	52575.50	-3.487	0.000*
	12	268	402.32	107822.50			

* p < 0.05

Krussgal Wallis analyzes showed that there was a significant difference in students' LTE and SAA scores, so the Mann Whitney U test was used to find out where the difference came from. Thus, it was found that students who are 9-10; 9-11; and 10-12 classes showed a significant difference in their LTE levels.

Similarly, when it was looked at students' SAA scores, students who are at 10-11 and 11-12 classes showed a significant difference.

Finally, the Pearson Correlation analysis was performed to find the correlation between SAA and LTE, and it was found $r = -0.090$, $p = 0.000$, showing a negatively significant however small correlation.

4. Discussion

The goal of this study was to determine SAA and LTE levels of high school students according to school type, gender, sporting license and class levels. In addition, correlation between SAA and LTE was investigated.

When we look at the high school students' SAA according to school type, vocational high school students have higher both SAA and LTE than other high school students. Although the exercise level of vocational high school students is higher than others, a result found that Science and Anatolian high school students are moderately active according to LTEQ evaluation. When we look at the profile of vocational high school students, we may say that they are placed in vocational high schools with the lowest academic scores according to high school placement exam results. While the aim of vocational high schools is to train qualified personnel for the workforce, Anatolian and Science high schools have a curricula for the university entrance exam, so students in these high schools are faced with a more intense education, which may cause them to do less physical activity.

This study demonstrates that students' gender is related to LTE but not SAA. The gender finding that was not related to SAA is consistent with Alemdağ, Özkan (2016), Vural, Keskin, Çoruh (2017), Durhan (2020) and Çetinkaya, Gülaçtı and Çiftçi's (2019) studies. However, students LTE levels varies significantly according to their gender. Male students physically more active than female students. Alemdağ and Öncü (2015), Tennur, (2016), Radu, Fagaraş and Vanvu (2015) and Karaca and Lapa (2016) found that male students are more active than female students. The reason for female students not to participate exercise as much as male students may be cultural factors (Ghadir et al. 2019), socioeconomic status (Shi, Lien and Kumar 2006), or because of their physical appearance female students shy away from exercise (Leary 1992).

When we look at the LTE levels of students with both club and school licenses, we see that there is a significant difference between the students who do not have a license. Although students who do not have a license, do not exercise as much as the others, it has been found that they do moderate exercise level. This differences found in LTE level was expected and is consistent with Babenko, Mosewich and Sloychuk' 2020 study with-

medical school students. They found that students with a sport background engaged in leisure time exercise to a greater extent than students with no sport background.

When we examine the exercise levels of the students according to their classes, we see that the 12th graders are the least active class among others. This may be explained with preparation for the university entrance exam. For 12th graders university entrance exam may be crucial factor for not participating physical activities. We can see similar reflections of this when we look at the SAA level of the students. 12th grade students also emerge as the group with the highest SAA level. The reason for this result may be that university entrance exam anxiety is very intense in this group.

5. Conclusion

In conclusion, based on the information gathered in this study, there is a significant difference between male and female students according to LTE level, however there is no significant difference between male and female students according to their SAA levels. On the other hand, LTE and SAA results showed a statistically significant difference in both SAA and LTE according to student club and school licenses. The study showed that Vocational High School students have the highest LTE and SAA levels compared to Science High School and Anatolian High School students. Finally, the Pearson Product Moment correlation indicated that there is a negatively significant, however, small correlation between SAA and LTE level of high school students.

6. Recommendation

In the light of existing evidence that students' LTE levels decline toward the end of high school years while SAA levels increase at this time. School administrators, parents, and teachers should make every effort to prevent this situation from adversely affecting both the psychological status of the students and their academic success.

This study demonstrated that students who has club and school licenses have lower SAA and higher level LTE, in this context students should be encouraged to be more physically active and to be part of school and club sport activities.

Conflicts of Interest
The authors declare that there is no conflicts of interest for their study.

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