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The Relationship Between Sport, Self-Regulation and School Burnout in High School Students

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Abstract
The purpose of this research is to investigate the relationship between sports and self-regulation and school burnout in high school students who are athletes and nonathletes. Relational screening method was used in the research. 387 high school students (188 athletes, 199 non-athletes) participated in the study. The average age of the participants was ± 15.9 years. The participating students were determined by the convenience sampling method. The data of the research were collected with the Personal Information Form, the Perceived Self-Regulation Scale and the School Burnout Scale. The data were analyzed by using the SPSS program, Independent Sample T-Test, One Way Anova Test, Tukey and Pearson Correlation tests. The significance level was accepted as p<0.05 in the analyses. According to the results of this research, the school burnout levels of non-athlete students are higher than those of athlete students. There is no significant relationship between athletes and self-regulation. The school burnout levels of athlete students who workout for 1-4 months and 9-12 months during the year are higher than those who workout for 5-8 months. On the other hand, female students' self-regulation levels are higher than males. The self-regulation and school burnout levels of the participants did not show a significant difference depending on the age.

Keywords: Student, Sports, Self-Regulation, School Burnout

1. Introduction

Sport facilitates the development of positive self-esteem, self-perception and mental endurance in the individual (Malina, 1996; Weiss, 1993), reduces the level of anxiety, stress and depression (Berger & Owen 1983). Besides, it supports the establishment of new friendships, the consolidation of these friendships and social integration (Peluso & Andrade2005). Accordingly, the key concept should be sport in order for students to take responsibility in the lifelong learning process and accordingly be able to take control of their own life, ultimately recognize themselves, be conscious of their own abilities, and integrate this ability and skill capacity into every area of their life in the form of constantly expanding rings. As the most basic reason for this, sports can be one of the best tools for an individual to perceive the limits of their own capacity in a sense. It is believed that sports provide an opportunity for students to take action for themselves, take responsibility, learn and develop self-regulation and become aware of themselves.

When self-regulation is evaluated in terms of social cognition theory, individuals have an internal system through which they can control their feelings, thoughts and actions, and this internal system is expressed as planning alternative strategies for the individual, regulating their own behaviours, symbolizing skills, and learning from others (Bandura, 1986; Şahan & Duy, 2017). On the other hand, in other words, self-regulation has been expressed as the individual's directing her/his own emotions, thoughts and behaviours to achieve a goal (Şahin, 2015; Zimmerman, 2002). Pursuant to all this information, self-regulation can be explained as a complex process consisting of many skills that allow an individual to optimally adapt/react to stimuli from the environment. Self-regulation, in the most general terms, can be the expression of a process related to the control of emotions, thoughts and actions.

School burnout is expressed as exhaustion by getting a sense of inadequacy due to excessive school demands, depersonalization towards school, and adopting an independent and cynical attitude (Koçak & Çakır, 2020; Salmela-Aro et al., 2009). The weight of the students' course load on issues related to school life, the fact that the educational process is long and exhausting also brings about a process that has negative consequences for both students and parents. This is why the students have problems in their school life. The continuity of high school students' school-oriented duties and responsibilities and the increasing expectations about these responsibilities cause school life to be intense and stressful. These reasons have led to the perception of student activities as 'work' (Kutsal & Bilge, 2012; Salmela et al., 2008; Seçer & Gençdoğan, 2012; Schaufeli et al., 2008). It is thought that problems experienced as a result of both school burnout and daily communication with other students in the education and training life of the students may cause the individual to see this process as a stressful and exhausting area.

The ability of self-regulation acquired at an early age is a fundamental issue for a positive life. It is estimated that sport raises the levels of self-regulation in the individual. There are studies that show that some sports can also provide improvements in the level of self-regulation in the short term, and elite athletes have higher levels of self-regulation. What is uncertain is whether sport raises self-regulation or whether better self-regulators are engaged in sports (Howard et al., 2018). Sports can positively affect social attitudes, and increase motivation for school. In this way, it can prevent the occurrence of school burnout or reduce the devastating effects of these syndromes. On the other hand, heavy workouts, high sports expectations and sports failure in high school students can also lead to an increase in the level of school burnout. In this direction, the determination of the relationship between the level of self-regulation and school burnout in high school athletes and non-athletes may provide insight into the protection of high school students from self-regulation and school-oriented burnout syndrome (Koçak & Çakır 2020).

When the current literature is examined it has been seen that the learning process and self-regulation in sports (Carvalho & Araújo, 2022), eating attitudes of athletes and self-regulation (Scoffier-Meriaux & Paquet, 2022), sport-based youth development and self-regulation (Lee et al., 2021) and the relationship between early childhood (4-5 years) sports participation and self-regulation (Howard et al., 2018) were searched. Nonetheless, studies examining the relationship between school burnout and sports (Koçak & Çakır 2020; Sorkkila et al., 2017; Sorkkila et al., 2018; Sorkkila et al., 2019; Sorkkila et al., 2020) are in a wide range. However, it has been seen in the literature that there are no studies searching the relationship between sports and self-regulation and school burnout in a sample of high school students. This research is important in terms of the contribution that it will provide to the literature on a new topic. The main purpose of this research is to investigate the relationship between self-regulation and school burnout in high school-age athletes and non-athletes through some variables. The research problems determined for this purpose are given below.

The hypotheses to be tested in this research are as follows:
The level of self-regulation and school burnout in high school students differs according to gender.
The level of self-regulation and school burnout in high school students differs according to age.
Self-regulation and school burnout and athletes in high school students differ according to their status.
The level of self-regulation and school burnout in high school student-athletes differs according to the training time during the year.
There is a significant relationship between self-regulation and school burnout level in high school students.

2. Method

2.1. Model of the Research

The present study employed a non-experimental quantitative method with a correlational research design. The correlational survey design has been defined as "a research model that aims to determine the degree of change between two or more variables or the presence of change together" (Karasar, 2012). Thus, the rationale for employing the correlational research is to describe the opinions or characteristics of a large community on a certain research topic (Fraenkel & Wallen, 2006).

2.2. Participants

The sample of the research included 387 students (187 Female, 200 Male) studying at different high schools in Çorum during the 2021-2022 academic year. The students to be sampled were determined by the "convenience sampling" method (Cohen & Manion, 1998).

2.3. Data Collection Tool

The data of the research were collected with the Personal Information Form, the "Perceived Self-Regulation Scale" (Arslan & Gelişli, 2015) and the "School Burnout Scale" (Seçer et al., 2013). Since the participants were under the age of 18, the data were collected by obtaining permission from the participants' parents, "TC Hitit University Non-Interventional Research Ethics Committee Parent Consent Form" and the Provincial Directorate of National Education Research Permission Commission. The created form was added to the data collection tool for approval by the researcher and participant's parents.

Personal Information Form: It was created by the researchers to collect data on the participants' gender, age, athletic status, sports, school burnout, and annual training duration.

Self-Regulation Scale: The scale developed by Arslan and Gelişli (2015) is in 5-point Likert type. It consists of a total of 16 items and 2 sub-dimensions. These dimensions are Openness and Seeking. The Cronbach Alpha value for the whole scale was found to be .90

School Burnout Scale: Salmela-Aro, Kiuru, Leskinen, and Nurmi (2009) developed it to measure school burnout levels in secondary school students. Seçer, Halmatov, Veyis, and Ateş (2013) made the adaptation of the scale to Turkish culture. The scale consists of 10 items and three sub-dimensions in a 5-point likert type. These dimensions are Emotional Burnout, Depersonalization, and Low Personal Accomplishment. The Cronbach Alpha value for the whole scale is .87.

2.4. Statistical Analysis of the Data

The research data were analyzed with SPSS 22 program. The Kolmogorov-Smirnov Test was performed to determine whether the data showed a normal distribution and the skewness and kurtosis values of the data were examined. According to the results obtained, it was determined that the data showed a normal distribution. Accordingly, parametric tests were used in the analysis of the data. Independent Sample T-Test, One Way Anova Test, Tukey Post Hoc Tests were used in the analysis of data about independent variables. Pearson Correlation Test was applied to determine the relationship between self-regulation and school burnout. The level of significance in the analyzes was accepted as $p < 0.05$.

3. Findings

In this part of the research, the findings are presented in tables as a result of the statistical analysis made to examine the relationship between doing sports, self-regulation and school burnout in high school students.

Table 1: Distribution of responses to personal information questions

Variables	Groups	n	%
Gender	Female	187	48,3
	Male	200	51,7
	Total	387	100,0
Age	14-15-16 Age	188	48,6
	17-18-19 Age	199	51,4
	Total	387	100,0
Sportsperson ship status	Yes	189	48,8
	No	198	51,2
	Total	387	100,0
Annual Training Time (Athlete Group)	1-4 Month	64	16,5
	5-8 Month	73	18,9
	9-12 Month	52	13,4
	Non-athlete	198	51,2
	Total	387	100,0

According to Table 1, the participants of the study consist of 187 females (48.3%) and 200 males (51.7) students. While the average age of the participants was 15.9, it is observed that 48.6% of the participants were in the 14-15-16 age group and 51.4% were in the 17-18-19 age group. 48.8% of the participants are athletes. 16.5% of the athlete participants workout between 1-4 months a year, while 13.4% workout for 9-12 months.

An independent sample t-Test was used to evaluate the participants' self-regulation and school burnout levels according to gender (Table 2).

Table 2: T-test findings regarding the genders of the participants

Scale	Sub-Dimensions	Gender	n	Mean	S.d.	t	df	p
School Burnout	Emotional Exhaustion	Female	187	3,36	,83	1,282	385	,20
		Male	200	3,24	1,02			
	Depersonalization	Female	187	3,31	1,09	,161	385	,87
		Male	200	3,29	1,17			
	Low Sense of Personal Success	Female	187	3,20	1,16	,233	385	,81
		Male	200	3,17	1,19			
	Total	Female	187	3,31	,88	,688	385	,49
		Male	200	3,24	1,01			
Self Regulation	Being Open	Female	187	3,85	,74	2,719	385	,00*
		Male	199	3,65	,71			
	Search	Female	185	3,57	,87	1,051	385	,29
		Male	197	3,48	,77			
	Total	Female	185	3,71	,73	2,074	385	,03*
		Male	196	3,56	,67			

*p<0,05

When Table 2 was examined, it was determined that the gender differences in the self-regulation openness dimension (t=2,719 p= ,007, p< 0.05) and in total (t=2,074 p=,039, p< 0.05) were statistically significant at the 95% confidence level. It was found that the openness level of female students (Mean =3.85) was higher than that of male students (Mean =3.65). On the other hand, it was determined that the participants' school burnout did not

have statistically significant differences according to gender in the sub-dimensions of emotional exhaustion, depersonalization, low sense of personal achievement and self-regulation of self-regulation (p>0.05).

An independent sample t-Test was used to evaluate the participants' self-regulation and school burnout levels according to age (Table 3).

Table 3: T-test findings regarding the age of the participants

Scale	Sub-Dimensions	Age	n	Mean	S.d.	t	df	p
School Burnout	Emotional Exhaustion	14-15-16	188	3,30	,99	,112	385	,91
		17-18-19	199	3,29	,89			
	Depersonalization	14-15-16	188	3,31	1,17	,223	385	,82
		17-18-19	199	3,28	1,10			
	Low Sense of Personal Success	14-15-16	188	3,21	1,23	,518	385	,60
		17-18-19	199	3,15	1,12			
	Total	14-15-16	188	3,29	1,00	,280	385	,78
		17-18-19	199	3,26	,90			
Self Regulation	Being Open	14-15-16	187	3,77	,69	,462	385	,64
		17-18-19	199	3,73	,77			
	Search	14-15-16	186	3,51	,76	-,193	385	,84
		17-18-19	196	3,53	,87			
	Total	14-15-16	185	3,64	,65	,175	385	,86
		17-18-19	196	3,63	,75			

*p<0,05

According to Table 3, it was determined that the participants' school burnout and self-regulation levels did not have significant differences according to age (p>0.05).

An independent sample t-Test was used to evaluate the participants' self-regulation and school burnout levels according to their sports status (Table 4).

Table 4: T-test findings regarding participants' athletic status

Scale	Sub-Dimensions	Sportspersonship Status	n	Mean	S.d.	t	df	p
School Burnout	Emotional Exhaustion	Yes	189	3,19	,95	-2,20	385	,02*
		No	198	3,40	,91			
	Depersonalization	Yes	189	3,19	1,15	-1,74	385	,08
		No	198	3,40	1,11			
	Low Sense of Personal Success	Yes	189	3,04	1,19	-2,30	385	,02*
		No	198	3,32	1,15			
	Total	Yes	189	3,16	,97	-2,29	385	,02*
		No	198	3,38	,92			
Self Regulation	Being Open	Yes	188	3,78	,70	,66	385	,50
		No	198	3,73	,75			
	Search	Yes	186	3,60	,83	1,89	385	,05
		No	196	3,44	,80			
	Total	Yes	185	3,69	,71	1,43	385	,15
		No	196	3,58	,70			

*p<0,05

When Table 4 is examined, it was determined that among the sub-dimensions of school burnout, emotional exhaustion (t=-2.20 p=.028 p<0.05), low sense of personal accomplishment (t=-2.30 p=.022 p<0.05) and the total of the scale (t =-2.29 p=.022 p<0.05) the burnout levels of non-athlete students were higher. On the other hand, it was determined that there was no significant difference in the sum and sub-dimensions of depersonalization and self-regulation of school burnout of the participants (p>0.05).

One Way Anova test was used to evaluate the self-regulation and school burnout levels of the athlete group according to the training time throughout the year (Table 5).

Table 5: One Way Anova test findings regarding the annual training time of the athlete group

Scale	Sub-Dimensions	Annual training Time (month)	n	Mean	S.d.	Sum of Squares	df	Mean Square	p	Tukey
School Burnout	Emotional Exhaustion-	1-4	64	3,49	,94	3,991	2	1,996	,12	
		5-8	73	3,15	,96					
		9-12	52	3,32	,98					
	Depersonalization	1-4	64	3,52	1,05	6,768	2	3,384	,07	
		5-8	73	3,10	1,15					
		9-12	52	3,41	1,16					
	Low Sense of Personal Success	1-4	64	3,60	1,14	18,792	2	9,396	,00*	1>3>2
		5-8	73	2,86	1,23					
		9-12	52	3,26	1,21					
	Exhaustion Total	1-4	64	3,52	,90	7,233	2	3,616	,02*	1>3>2
		5-8	73	3,07	,97					
		9-12	52	3,33	1,00					
Self Regulation	Being Open	1-4	64	3,78	,72	,015	2	,007	,98	
		5-8	73	3,76	,72					
		9-12	52	3,78	,72					
	Search	1-4	64	3,44	,85	1,601	2	,801	,33	
		5-8	73	3,55	,84					
		9-12	52	3,64	,86					
	Self Regulation Total	1-4	64	3,60	,71	,483	2	,241	,62	
		5-8	73	3,66	,72					
		9-12	52	3,71	,71					

*p<0,05

When Table 5 was examined, it was determined that there was a statistically significant difference in the dimension of low personal achievement feeling (df=2, p=,002) and school burnout in total (df=2, p=0.23) according to the workout time during the year. According to the Tukey Post hoc test, which was conducted to determine which group the difference originated from, it was determined that those who trained for 1-4 months experienced lower personal accomplishment and overall school burnout more than those who trained for 5-8 months and 9-12 months.

Pearson Correlation test was used to evaluate the relationship between self-regulation and school burnout in the participants (Table 6).

Table 6: Evaluation of the relationship between self-regulation and school burnout in participants

Scale	School Burnout Total	Emotional Exhaustion	Depersonalization	Low Sense of Personal Success	Self-Regulation Total	Being Open	Search
School Burnout Total　r		,914**	,918**	,858**	-,027	,042	-,084

	p	1	,000	,000	,000	,605	,410	,103
Emotional Exhaustion	r	,914**		,734**	,675**	-,002	,059	-,055
	p	,000	1	,000	,000	,973	,248	,280
Depersonalization	r	,918**	,734**		,727**	-,019	,055	-,082
	p	,000	,000	1	,000	,710	,277	,109
Low Sense of Personal Success	r	,858**	,675**	,727**		-,067	-,021	-,098
	p	,000	,000	,000	1	,193	,685	,057
Self Regulation Total	r	-,027	-,002	-,019	-,067		,894**	,916**
	p	,605	,973	,710	,193	1	,000	,000
Being Open	r	,042	,059	,055	-,021	,894**		,640**
	p	,410	,248	,277	,685	,000	1	,000
Search	r	-,084	-,055	-,082	-,098	,916**	,640**	
	p	,103	,280	,109	,057	,000	,000	1

** $p<0,01$ (2-tailed)

* $p<0,05$

According to Table 6, it was determined that there was no significant difference between the school burnout and self-regulation levels of the participants ($p>0.01$).

4. Discussion

In this study, it has been determined that the self-regulation levels of female students are higher than male students. While there are studies in the literature that support these findings (Aktan,2012; Bidjenaro, 2005; Hargittai & Shafer 2006), contradictory research (Üredi & Üredi, 2005) has also been reached.

On the other hand, it is observed that the participants' school burnout levels do not have a statistically significant difference according to gender. Contrary to the research findings, there are studies in the literature stating that school burnout is higher in male students (Çapulcuoğlu & Gündüz, 2013; Nolen-Hoeksema & Girgus, 1994) and studies indicating that it is higher in female students (Ge et al., 2001; Özdemir, 2015).

In this study, it was found that the levels of self-regulation and school burnout did not show a significant difference according to age. While there are studies in the literature that support this research (Koçak & Çakır, 2020; Seçer & Gençdoğan, 2012), another study conducted on high school students found that male students' burnout scores were higher than female students (Kutsal & Bilge, 2012).

In the research, it was determined that the level of school burnout of non-athlete students is higher than that of those who are athletes. When the research carried out on this subject is examined, it is seen that there are studies in which the school burnout levels of athlete students are high (Koçak & Çakır, 2020; Pilkauskaite-Valickiene et al., 2011). On the other hand, it has been determined that the self-regulation levels of the students do not constitute a significant difference according to the state of athletes.

In the study, it was determined that there was no significant relationship between the annual training period and the self-regulation level of the students. However, it has been observed that the school burnout levels of athletes who workout for 1-4 months and 9-12 months a year are higher than those who workout for 5-8 months a year. In parallel with these findings, there are studies (Özcoşan, 2018; Raedeke & Smith, 2001) that indicate that the level of burnout increases as the intensity and duration of workout increase.

In this research sampling, there was no significant relationship between school burnout and self-regulation. However, there are studies in the literature that report that students with low levels of self-regulation skills experience school burnout (Duru et al., 2014; Kapıkıran et al., 2016).

According to the results of this research, there is a significant relationship between sports and school burnout. The school burnout levels of non-athlete students are higher than those of athlete students. There is no significant relationship between athletes and self-regulation. The level of school burnout in athletes varies according to the workout time per year. In this sample, the school burnout levels of athlete students who workout for 1-4 months and 9-12 months are higher than those who workout for 5-8 months. On the other hand, female students' self-regulation levels are higher than men. When the findings obtained in this research and the literature information are evaluated, it can be said that the self-regulation levels of female students are high. Self-regulation and school burnout do not show a significant difference according to age.

5. Conclusion

The sample and independent variables of this research significantly limited the research. Therefore, the research results may not be generalizable to the population. This research can be repeated in different samples using different limitations and different variables.

Considering these research results, it may be suggested to investigate the reasons why non-athlete students experience school burnout. Practices that reduce the school burnout levels of non-athlete students should be developed and students should be protected from the negative effects of burnout.

The reasons for the school burnout experience of athletes who do not workout more throughout the year should be investigated and measures should be taken to prevent school burnout.

Based on the reality that athletic students do not experience school burnout compared to non-athletes, high school students should be encouraged to become competitive athletes.

Personal development direction trainings can be given to male students to investigate the reasons for their own thought formation, and to develop their own ways of thinking.

Conflict of interest

There was no conflict of interest.

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