

The Effect of Sports Commitment on Regular Studying: The Mediating Role of Athlete Mental Health Continuity

Spora Bağlılığın Düzenli Ders Çalışma Üzerindeki Etkisi: Sporcu Ruh Sağlığı Sürekliliğinin Aracı Rolü

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ABSTRACT

This study examines the effect of the level of sports commitment on regular studying behaviors and the mediating role of athlete mental health continuity in this relationship. The research was conducted with the participation of 394 volunteer athletes, and the hypotheses were tested using Process Macro Model 4 developed by Hayes (2022). For structural equation modeling, analyses were performed using IBM SPSS Statistics, its extension AMOS, and the PROCESS software, and the results were tested with the Bootstrap technique. The findings indicate that sports commitment has a significant effect on mental health continuity ($a_1 = 0.3918, p < .001$), and that mental health continuity has a positive effect on regular studying ($b_1 = 0.0807, p < .001$). In addition, the direct effect of sports commitment is also significant ($c' = 0.0830, p < .001$), but this effect is more strongly shaped through mental health continuity. The combined effects are also significant (sports commitment: $b = 0.0807, p < .001$; mental health continuity: $b = 0.0830, p < .001$). Furthermore, the indirect effect between sports commitment and regular studying ($b = 0.0325, SE = 0.0106, BootCI = [0.0142, 0.0559], p < .001$) demonstrates the mediating role of mental health continuity. The results highlight the strong interaction between sports commitment, mental health continuity, and regular studying. Accordingly, the development of programs in universities that support the mental health of student-athletes may be effective in enhancing their academic success.

Keywords: Psychosocial in sports, sports commitment, mental health continuity, regular study, mediating effect

ÖZ

Bu araştırma, spora bağlılık düzeyinin düzenli ders çalışma davranışları üzerindeki etkisini ve bu etkide sporcu ruh sağlığı sürekliliğinin aracılık rolünü incelemektedir. Araştırma, 394 gönüllü sporcunun katılımıyla gerçekleştirilmiş ve hipotezler Hayes (2022) tarafından geliştirilen Process Macro Model 4 aracılığıyla test edilmiştir. Yapısal eşitlik modellemesi için analizler IBM SPSS Statistics, AMOS ve PROCESS yazılımları kullanılarak yapılmış ve Bootstrap tekniği ile test edilmiştir. Sonuçlar, spora bağlılığın ruh sağlığı sürekliliği üzerinde anlamlı bir etkisi olduğunu ($a_1 = 0.3918, p < .001$) ve ruh sağlığı sürekliliğinin düzenli ders çalışma üzerinde pozitif bir etkisi bulunduğunu ($b_1 = 0.0807, p < .001$) göstermektedir. Ayrıca, spora bağlılığın doğrudan etkisi de anlamlıdır ($c' = 0.0830, p < .001$), ancak bu etki ruh sağlığı sürekliliği aracılığıyla daha güçlü bir şekilde şekillenmektedir. Birleşik etkiler de anlamlıdır (spora bağlılık: $b = 0.0807, p < .001$; ruh sağlığı sürekliliği: $b = 0.0830, p < .001$). Ayrıca, spora bağlılık ile düzenli ders çalışma arasındaki dolaylı etki ($b = 0.0325; SE = 0.0106; BootCI = [0.0142, 0.0559], p < .001$) ruh sağlığı sürekliliğinin aracılık rolünü ortaya koymaktadır. Sonuçlar, spora bağlılık, ruh sağlığı sürekliliği ve düzenli ders çalışma arasında güçlü bir etkileşim olduğunu vurgulamaktadır. Bu doğrultuda, üniversitelerde sporcu öğrencilerin ruh sağlığını destekleyen programların geliştirilmesi, akademik başarılarını artırmada etkili olabilir.

Anahtar Kelimeler: Sporda psikososyal, spora bağlılık, ruh sağlığı sürekliliği, düzenli ders çalışma, aracılık etkisi

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Introduction

Although sports may seem like a short word consisting of only four letters, it represents a multidisciplinary field of science with its structure that includes many branches and is open to interdisciplinary interactions. Today, sports are not only considered as a physical activity; they are also evaluated as a multifaceted phenomenon that contributes to the holistic development of the individual with its mental, social, cultural and psychosocial dimensions. This multidimensional approach is very important in understanding the effects of sports on individuals. Especially in the psychosocial context, it has been demonstrated by various studies that sports make positive contributions to the individual's self-efficacy perception, self-esteem, social connectedness level and mental health. Therefore, sports should not only be considered as an activity that improves physical health, but also as a holistic experience that strengthens individuals' psychosocial building blocks such as psychological resilience, emotional balance, social interaction and social belonging. In this context, it is possible to correctly analyze the effects of sports on the individual, not only with physiological indicators, but also with a multidimensional perspective, considering psychological and social variables. At the point that sports sciences have reached today, this holistic approach has become a fundamental reference point both in the production of theoretical knowledge and in the fields of application.

Commitment to sports is a multidimensional phenomenon that is shaped by the individual's regular and consistent participation in sports activities. This commitment manifests itself in sports environments by activating the individual's internal resources such as belief, effort, energy and pleasure (Lonsdale et al., 2007). Commitment also refers to the individual acting with a sense of responsibility, taking ownership of his/her duty and doing this with a sense of pride. This concept, which is at the center of sports activities, is also associated with the positive effects of regular participation on the individual (Wheatley & Bickerton, 2017). In literature, commitment is often considered as the opposite of burnout and is defined as the "positive counterpart of burnout" (Schaufeli & Bakker, 2004; Lonsdale et al., 2007). Sports-specific studies first focus on the structural characteristics of the concept of commitment; then, the relationship between this concept and burnout levels and work life is examined in detail (DeFreese & Smith, 2013). It is seen that the concept of commitment plays a determining role in the attitudes and behaviors of individuals towards their work. Shaffer et al. (2000) explain commitment by basing it on three basic characteristics: intense desire, occasional loss of control, and development of dependency. Within the framework of this definition, commitment to sports is considered in a similar structure and is characterized by positive psychological components such as enthusiasm, confidence, vitality and dedication (Alvarez et al., 2009). Schaufeli et al. (2002) define commitment as a psychological state related to an individual's levels of vitality, internalization and dedication. Of these components, vitality is defined as the individual's ability to exhibit high-level performance and effectively cope with the difficulties he/she encounters; while commitment is associated with the individual's participation in sports activities with an internal sense of enthusiasm and inspiration and giving meaning to these activities. Internalization means that the individual's relationship with sports deepens, this activity becomes a part of his/her identity, and he/she is completely immersed in the sports activity (Guillén & Martínez-Alvarado, 2014).

Sportsmanship should be considered as a very intense and tiring lifestyle, not only physically but also mentally. Athletes must train for long periods of time, not only in competitions but also for the purpose of continuous development and maintaining team dynamics (Minigh, 2007). In this process, competitive environments where high performance is expected from athletes bring about conditions in which success and failure play a critical role (Nieuwenhuys & Oudejans, 2012). Throughout the process, athletes are faced with various stressors such as performance anxiety, competition results, the possibility of injury, and career termination. All these factors can directly affect the mental health of the individual (Bär & Markser, 2013). The World Health Organization (WHO, 2004) defines mental health as a state of well-being defined by the individual's ability to realize his or her own abilities, cope with the stresses of daily life and contribute to society. In this context, mental health is addressed in terms of subjective well-being, psychological well-being and social well-being (Keyes, 1998; Ryff & Singer, 1996). Well-being is considered one of the fundamental building blocks of positive psychology (Seligman, 2011), and regular physical activity is stated to be an important component of this structure. As a matter of fact, it has been shown that physical activity provides significant contributions not only to physical health but also to reducing depressive symptoms, increasing commitment to life and supporting general well-being. When studies examining the relationship between physical activity and psychological resilience are evaluated in general, it can be stated that there is a negative relationship between physical activity and depression and anxiety (Seçer & Çakmak Yıldızhan, 2020).

Psychological well-being, as an important indicator of an individual's mental health, is based on the individual's capacity to be satisfied with himself/herself despite environmental constraints, to develop a positive self-perception, and to recognize his/her individual potential and develop accordingly (Huppert, 2013). When considered in the context of the athlete, psychological well-being includes elements such as the individual's self-acceptance, relationships with coaches and teammates, level of autonomy in sports, and opportunities for personal development (Lundqvist, 2011). On the other hand, social well-being includes dimensions such as social acceptance, social contribution, social adaptation, integration with the community and social self-actualization for athletes. In this context, it is stated that the problems experienced by athletes regarding mental health are not limited to mild effects; in some cases, they can have serious consequences, including early retirement from sports. In fact, in the study conducted by Kern et al. (2017), it was observed that 62.6% of university-level athletes stated that mental health symptoms negatively affected their athletic performance. These findings reveal that mental health in athletes can have a direct decisive effect not only on personal well-being but also on performance outcomes.

Another major challenge faced by athletes is that they do not adequately plan for their post-education and post-sports lives while building their professional athletic careers (Wylleman & Reints, 2010). In this context, optimal dual-career balance stands out as a model that enables student athletes to achieve their goals in sports, education and personal life, while maintaining their health and general well-being (Stambulova et al., 2015). Research has shown that the dual-career model offers an effective solution to help athletes balance different areas of their lives and prepare for life after sports (Küttel et al., 2020). De Subijana et al. (2015) define the concept of dual career as a process that allows an individual to reach their full potential while successfully advancing in the fields of education, training and sports. However, this concept also highlights the difficulties of combining sports career with education or work. For student athletes who pursue their sports career in parallel with education, participation in training depends on the flexibility of their training schedules, and therefore training times must be flexible to fit into their training schedules. However, with the increasing pressure for success, it is observed that students are increasingly turning to a physically sedentary lifestyle (Burrows et al., 2014). Among the many factors affecting academic success, the importance of physical activity and school sports activities is prominently emphasized. There is evidence that exercise plays a central role in learning processes, increases cognitive performance, and thus contributes to learning (Cotman & Berctold, 2002). It is stated in the literature that there are many variables that affect exam success and that the combined effect of these factors shapes academic success, but a single variable is not enough to fully explain success (Engin Demir, 2009). Students' study time is an important factor that has a direct impact on academic success. In addition, participation in school sports activities increases students' commitment to school and reduces absenteeism rates, while school-based physical activities strengthen children's sense of belonging to school and support their emotional, behavioral and cognitive development. All these processes positively affect students' academic success (Owen et al., 2018).

To further understand this interaction in athletes, theories such as Self-Determination Theory can be used. SDT explains how individuals' intrinsic motivation is related to the commitment and dedication required to achieve personal goals. This theory argues that meeting individuals' basic psychological needs, such as autonomy, competence, and relatedness, allows them to develop higher levels of psychological well-being and commitment (Deci & Ryan, 2000). When athletes satisfy these basic needs, their commitment to sports increases and their mental health and general well-being develop positively. In this context, athlete performance and psychological health can be better understood and supported based on the basic principles of Self-Determination Theory. Self-Determination Theory is a theory developed by Deci and Ryan that explains the motivational processes of individuals. According to Self-Determination Theory, individuals' intrinsic motivation is based on the satisfaction of three basic psychological needs: autonomy, competence, and relatedness. Meeting these needs helps individuals become healthier, happier, and more successful. Especially when athletes are trying to balance their education and sports careers, these three needs are important factors that determine their psychological and academic well-being.

- Autonomy refers to the freedom of athletes to make their own decisions and act towards personal goals. An athlete who tries to balance education and sports satisfies their need for autonomy while determining both their sports career and academic goals. This process can strengthen the athlete's sense of determination and commitment.

- Competence refers to the feeling that individuals have the skills necessary to be successful. Students' performance in sports and education provides them with a sense of competence, which increases their intrinsic motivation. Athletes' ability to continue their sports in parallel with their education is an important factor that reinforces their sense of competence.

• Relatedness refers to the need for individuals to connect with their social environment and receive support. Student athletes satisfy these needs through healthy relationships with their coaches, teammates, and educators. Participation in school sports activities increases students' commitment to the school, strengthens their social ties, and thus positively affects their academic success.

Self-Determination Theory emphasizes how important it is for athletes to meet these three basic needs to be successful in their sports and educational careers. Furthermore, satisfying these needs allows athletes to become stronger not only physically but also psychologically. The difficulties that athletes face, especially with the increasing pressure for success, can be overcome by satisfying these needs, which can help them maintain their mental and academic well-being.

In our study, to understand the interaction between athletes' commitment to sports, their mental health and regular study behaviors in more depth, the hypotheses based on Self-Determination Theory were organized as follows:

H₁: Commitment to sports positively affects regular study behavior.

H₂: Commitment to sports positively affects athlete mental health continuity.

H₃: Athlete mental health continuity positively affects regular study behavior.

H₄: Athlete mental health continuity plays a significant mediating role in the effect of sports commitment on regular study behavior.

In this study, hypotheses were determined to examine the direct and indirect relationships between variables, based on the theoretical framework and structural equation modeling. In determining the hypotheses, it was analyzed how the effect of X on Y occurred directly and indirectly through the mediator variable (Mi). In this direction, hypotheses were developed using the following equations and are illustrated in Figure 1.

Figure 1.

Visualization of the model created in line with the hypotheses tested in the study and the effective paths between the variables in the model.

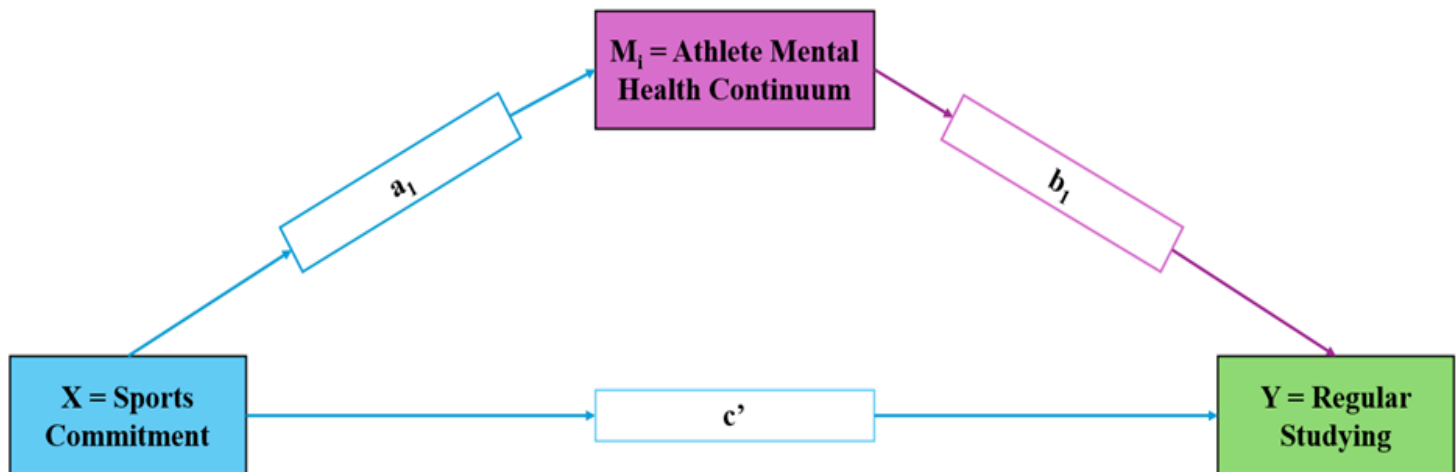


Figure 1 Note: * Direct effect of X on Y $\rightarrow c'$

* Direct effect of X on M $\rightarrow a_1$

* Direct effect of M on Y $\rightarrow b_1$

* Indirect effect of X on Y only through Mi $\rightarrow a_1 \times b_1$

The hypotheses put forward in this study were created to evaluate the effects between the variables and to test the significance of the relationships that emerged both directly and indirectly. The analyses carried out within the scope of the research are aimed at determining whether the relationships put forward in line with theoretical expectations are empirically supported. In the social sciences literature, it is frequently emphasized that the relationships between variables are not limited to direct and simple structures, but rather involve multidimensional, indirect and context-specific interactions. In this context, mediation effects, which explain how and through which processes the relationship between two variables emerge, and moderation effects, which reveal under what conditions this relationship differs, are of great importance for contemporary research. As a matter of fact, analyzing such effects enables deepening theoretical knowledge and providing original contributions to relevant fields (Gürbüz, 2021). In this context, the current study examined whether the effect of

sports commitment on regular study behavior was indirectly mediated through the mental health continuity variable. It was predicted that mental health continuity could play a role as a free mediator variable (partial mediator) in this relationship. The relevant hypotheses were tested through Model 4 developed by Hayes (2022). Model 4 is a frequently used and methodologically strong model in analyzing whether the effect of an independent variable on the dependent variable is indirectly realized through a mediator variable. Through this model, the mediation relationships between the variables were empirically tested and the interaction dynamics between the relevant structures were revealed.

Methods

Research Model

This study aims to examine the effect of sports commitment on regular study behavior in student athletes and the mediating role of athlete mental health continuity in this effect. In the study, the effective dimension of the relational screening model, which aims to reveal the effects of at least two or more variables on each other, was adopted. This model aims to reveal the direction and level of the effect of one variable on another by analyzing the interaction between variables (Christensen et al., 2014; Karasar, 2023).

Data Collection Process

The data collection process was carried out in full compliance with ethical principles in line with the World Medical Association Code of Ethics for research involving human subjects (Declaration of Helsinki). All data collected during the research process were obtained in accordance with the principles of anonymity and confidentiality, within the framework of research ethics regulations. During the data collection phase, face-to-face scale applications were carried out on a voluntary basis, after obtaining the necessary consents from the participants. All necessary precautions were taken to protect the confidentiality and anonymity of the participants. The ethical approval of the research process was evaluated by the Karabük University Social and Human Sciences Research Ethics Board and was unanimously accepted at the meeting held on 03.05.2024 (Meeting No: 2024/05). This approval confirms that the research complies with ethical rules and that the rights of the participants are safeguarded.

Data Collection Tools

Sports Engagement Scale: The Spanish version of The Utrecht Work Engagement Scale (UWES), developed by Schaufeli et al. (2004), was adapted for athletes by Guillén and Martínez Alvarado (2014). The scale adapted by Cihan et al. (2019) has 15 items and a 5-point Likert structure. Among the goodness of fit values, it was found that the X^2/df ratio was less than three, and the CFI, GFI, TLI and IFI values were in the range of 0.90-1.00. The RMSEA value was between 0-0.8. The composite reliability coefficient for the entire scale was determined as 0.95. The average variance of each factor was found to be above 0.50.

Athlete Mental Health Continuity Scale: It was developed by Tingaz (2022) and consists of 14 items and 3 sub-items. In the three-factor model, all goodness of fit indices were found to be in good fit or acceptable range ($X^2/df=2.764$, SRMR=.055, RMSEA=.083, CFI=.936, AGFI=.850, NFI=.904).

Regular Study Scale: It was developed by Çakıcı (2003) and consists of 19 items and two sub-dimensions (Regular Study, Procrastination). The Cronbach alpha reliability coefficient of the first sub-dimension used in the study, the regular study dimension, was found to be $\alpha=.89$. The analysis determined that the scale was a valid and reliable measurement tool.

Personal Information Form: It was prepared to determine the demographic characteristics of the participants. The form includes questions regarding age, sports age, and gender variables.

Analysis Data

In line with the research model, the study was carried out using IBM SPSS Statistics (Version 27) and its extensions AMOS (NET CLR Version 4.0.30319.42000) and PROCESS (Version 4.2 Beta Release) software. First, the data obtained from the participants were correctly transferred to the system, and extreme and missing value examinations were conducted. Then, the conformity of the data to normal distribution was evaluated. The suitability of the normal distribution was examined in terms of the Mahalanobis distances, Z values, skewness, and kurtosis values of the calculated scale scores. Since the data showed a normal distribution, the covariance matrix was created using the Maximum Likelihood calculation method. To examine the relationships between the variables, Pearson correlation analysis was conducted as a preliminary step. The factor structure of the measurement tools used in the study was then tested, and after the factor structure was verified, regression analysis based on the Bootstrap method was applied to test the hypotheses of the study (Hayes, 2022). This method was preferred because it provides more reliable and robust results compared to the traditional approach of Baron and Kenny (1986) and the Sobel test (Gürbüz, 2021; Hayes, 2022). In hypothesis testing, Model 4 of the Process Macro developed by Hayes (2022) was applied. In the analyses, the 5000-sample option was preferred with the Bootstrap technique. In the mediation and moderation effect analyses conducted with the Bootstrap method, for the research hypothesis to be supported, the values in the 95% confidence interval (CI) obtained because of the analysis should not contain zero (0) (Hayes, 2022; MacKinnon et al., 2004; Preacher & Hayes, 2008).

The model fit indices and psychometric properties calculated to determine the statistical suitability of the scales used in the study are presented in Table 1. This table includes statistical indices such as X^2/df , GFI, CFI, RMSEA and SRMR to evaluate the fit of the model. Additionally, Cronbach's Alpha coefficient was reported to measure the internal consistency of the scales, and Skewness and Kurtosis values were reported to examine the suitability of the data for normal distribution. The fit indices and psychometric properties of the model were evaluated by comparing them with acceptable threshold values specified in the literature, and it was concluded that the model provided a good fit in line with these evaluations (SC = Sports Commitment; AMHC: Athlete Mental Health Continuity; RS: Regular Studying).

Table 1.
Statistical model fit indexes and psychometric properties

Index	Good Fit	Acceptable	SC	AMHC	RS
X^2/df	<3	<3(X^2/df)<5	3.69	3.16	3.51
GFI	>.95	>.90	.90	.91	.96
CFI	>.95	>.90	.94	.95	.94
RMSEA	<.05	<.08	.08	.07	.08
SRMR	<.05	<.08	.04	.04	.04
Cronbach's Alpha	0.70 (α) 0.90	0.60 (α) 0.70	.95	.93	.78
Skewness	-1 (value) +1	-2 (value) +2	-1.08	-.687	-.222
Kurtosis	-1 (value) +1	-2 (value) +2	.631	.651	.137

X^2/df : X^2 ; GFI; CFI; RMSEA; SRMR (Byrne, 2016; Gürbüz, 2021). Cronbach's Alpha (George & Mallery, 2003). Skewness; Kurtosis (Hair et al., 2014).

The analyses and statistical evaluations presented in Table 1 show that the measurement tools used are reliable, valid and suitable for normal distribution.

Universe and Sample

The universe of the study consists of student athletes studying at sports sciences faculties. In this study based on the principle of voluntary participation, the criterion sampling method was preferred. Criterion Sampling is the study of all situations that meet a set of predetermined criteria. The criterion is created by the researcher, or a previously prepared list of criteria can be used (Marshall & Rossman, 2014). However, the criteria determined for critical situations must also fit the general harmony of the research (Creswell & Clark, 2017). In this context, the criteria for inclusion in the research are;

- Volunteering to participate in the research; Being 18 years of age or older; Being a student of the faculty of sports sciences; Being a licensed athlete

According to the Higher Education Information System data, there are 6,401,149 university students. Yazıcıoğlu and Erdoğan (2014) calculated sample sizes from different universe sizes for sampling errors of ± 0.03 , ± 0.05 and ± 0.10 at the $\alpha = 0.05$ level. In this context, it was found that 384 samples were sufficient to represent the universe in a universe of 100 million people for a sampling error of ± 0.05 . As a result of the calculations made with Raosoft (Sample size calculator) software, it was seen that the minimum sample size was 385 at a 5% margin of error and a 95% confidence level (Raosoft, 2024). In addition, according to the G*Power analysis of f tests (Linear multiple regression: Fixed model, R² increase) where Effect size $f^2 = 0.08$; α err prob = 0.05; Power (1- β err prob) = 0.95, it was concluded that at least 197 individuals could represent the universe (Faul, 2009). The sample of the study consists of 394 student athletes, 144 female and 250 males. When Table 2 is examined, it is seen that the average age of the participants is 21.37 ± 1.01 and the average sports age is 7.83 ± 4.52 .

Table 2.
Sample group distribution

		n	%	
Gender	Female	144	36.5	
	Male	250	63.5	
	Total	394	100.0	
		n	$\bar{x}$	Ss.
Age		394	21.37	1.01
Sports Age		394	7.83	4.52

Voluntary participation and 394 athletes selected according to certain criteria ensure that the results of the study are reliable and reflect the general population. This methodological approach increases the reliability and validity of the study.

Results

The aim of this study is to examine the effect of sports commitment (X) on regular study behavior (Y) among university students and to test whether mental health continuity (M) plays a role as a mediator variable in this effect. For this purpose, direct, indirect and total effects were examined using PROCESS macro Model 4 developed by Hayes (2022).

Table 3.
Correlations and mean scores between

Variables	1.	2.	3.	$\bar{x}$	Ss.
1. SC	1			60.44	13.11
2. AMHC	.385**	1		64.41	13.07
3. RS	.275**	.282**	1	22.99	5.37

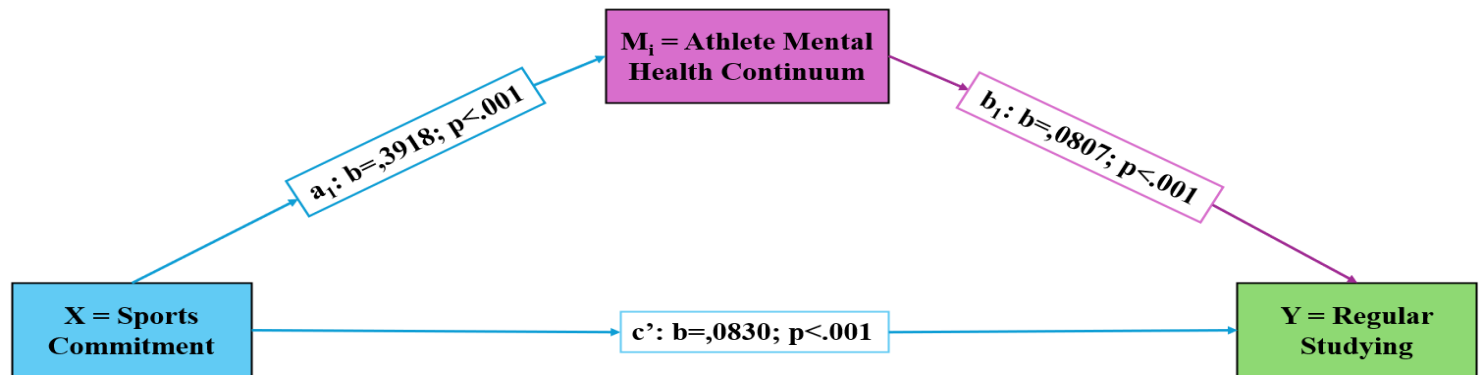
* $p < .05$, ** $p < .01$ (SC: Sports Commitment, AMHC: Athlete Mental Health Continuity, RS: Regular Study)

According to Table 3, there is a positive and statistically significant relationship between commitment to sports and mental health continuity ($r = .385$, $p < .01$). This finding shows that as the level of commitment to sports increases, the continuity of mental health of students also increases. Similarly, there is a significant and positive relationship between commitment to sports and regular study behavior ($r = .275$, $p < .01$). This result shows that individuals with higher levels of commitment to sports also have a higher tendency to study regularly. On the other hand, the relationship between mental health continuity and regular study behavior is also significant ($r = .282$, $p < .01$). This finding shows that individuals with higher mental health continuity tend to fulfill their academic responsibilities more regularly. In general, the correlations obtained are at a moderate level, indicating that there may be significant positive effects between the variables. These findings prepare the ground for the mediation analysis conducted later.

The model for the mediation analysis conducted in line with the hypotheses tested in the study and the effective paths between the variables in the model are presented conceptually in Figure 2.

Figure 2.

Visualization of the model created in line with the hypotheses tested in the research and the effective paths between the variables in the model.



Path a_1 : The Commitment to Sports (X) variable has a significant and positive effect on the Mental Health Continuum (M) ($a_1 = .3918$, $p < .001$). This finding shows that as the commitment to sports increases, the mental health continuity of the students also increases.

Path b_1 : Mental Health Continuity has a significant and positive effect on Regular Study Behavior (Y) ($b_1 = .0807$, $p < .001$). This result reveals that individuals with more continuous mental well-being also have higher academic study routines.

c' Path: The direct effect of Sports Commitment on Regular Studying (c') was also found to be significant ($c' = .0830$, $p < .001$). This shows that sports commitment contributes to study behavior in direct ways other than mental health continuity.

Table 4.

Effect of sports engagement on mental health continuum ($X \rightarrow M$)

Independent Variable	B	SE	t	p	%95 CI [LLCI, ULCI]	Stand. β	R	R ²	F
Constant	40.87	2.85	14.33	< .001	[35.27 – 46.48]	-			
Sports Commitment	.3918	.0461	8.51	< .001	[.3012 – .4823]	.3948	.3948	.1558	72.37

Table 4 presents the regression analysis showing the effect of sports commitment on mental health continuity. The analysis findings show that the level of sports commitment has a significant and positive effect on mental health continuity ($B = .3918$, $p < .001$). This effect is statistically significant; the 95% confidence interval is [.3012, .4823] and does not include the value zero. The standardized coefficient (β) is .3948, indicating a moderate effect of sports commitment on mental health continuity. The total explanatory level of the model is $R^2 = .1558$, and it is seen that sports commitment explains approximately 15.6% of the variance in mental health continuity. The model is generally significant ($F = 72.37$, $p < .001$).

Table 5.

Effect of sports commitment and mental health continuity on regular studying ($X, M \rightarrow Y$)

Independent Variable	B	SE	t	p	%95 GA [LLCI, ULCI]	Stand. β	R	R ²	F
Constant	12.75	1.50	8.49	< .001	[9.80 – 15.70]	-			
Sports Commitment	.0807	.0214	3.77	< .001	[.0387 – .1227]	.1961			
Mental Health Continuity	.0830	.0215	3.85	< .001	[.0406 – .1253]	.2001	.3308	.1095	24.03

Table 5 presents the combined effects of sports commitment (X) and mental health continuity (M) on regular study behavior (Y). According to the findings, both variables have a significant and positive effect on regular study. The effects of sports commitment ($B = .0807$, $\beta = .1961$, $p < .001$) and the effects of mental health continuity ($B = .0830$, $\beta = .2001$, $p < .001$) are significant. The 95% confidence intervals for both variables are [.0387, .1227] and [.0406, .1253], respectively, and do not

include zero. The overall explanatory power of the model is $R^2 = .1095$, and it is seen that the independent variables explain approximately 10.95% of the variance in regular study behavior. The model is generally significant ($F = 24.03$, $p < .001$).

Table 6.

Total effect of sports commitment on regular studying (without mediator variable) ($X \rightarrow Y$)

Independent Variable	B	SE	t	p	%95 GA [LLCI, ULCI]	Stand. β	R	R ²	F
Constant	16.14	1.24	13.05	< .001	[13.71 – 18.58]				
Sports Commitment	.1132	.0200	5.66	< .001	[-.0739 – .1525]	.2750	.2750	.0757	32.08

In Table 6, the total effect of sports commitment on regular study behavior was evaluated without a mediator variable. According to the findings, sports commitment has a significant and positive effect on regular study ($B = .1132$, $\beta = .2750$, $p < .001$). The confidence interval is [.0739, .1525] and does not include value zero. The explanatory power of the model was calculated as $R^2 = .0757$, and it was determined that sports commitment explained 7.57% of the variance in regular study behavior. The model is generally significant ($F = 32.08$, $p < .001$).

Table 7.

Indirect effect (mediation analysis) ($SC \rightarrow AMHC \rightarrow RS$)

Path of Effect	Indirect Effect	SE	BootLLCI	BootULCI	Stand. β
SC $\rightarrow$ AMHC $\rightarrow$ RS	.0325	.0106	.0142	.0559	.0790

Table 7 presents the results of the mediation analysis evaluating the indirect effect of sports commitment on regular study through mental health continuity. Accordingly, sports commitment indirectly affects regular study behavior positively and significantly ($B = .0325$; $SE = .0106$; $BootCI = [.0142 - .0559]$). The fact that the confidence interval does not include zero indicates that this effect is statistically significant. The standardized indirect effect coefficient (β) was calculated as .0790. This finding reveals that mental health continuity plays a mediating role in the relationship between sports commitment and regular study.

Discussion and Conclusion

The aim of this study was to examine the effect of the sports commitment (SC) variable on regular study behavior (AMHC) among university students and to test the mediating role of the athlete mental health continuity (RS) variable in this relationship. The research findings supported all the hypotheses and revealed how the interaction between sports commitment and regular study behavior is shaped through the athlete mental health continuum. These results show that the level of commitment to sports creates direct and indirect effects on students' academic success and that their psychological well-being plays an important role in this interaction.

H₁: Commitment to sports positively affects regular study behavior.

The findings obtained within the scope of the research support the **H₁** hypothesis. The analyses revealed that there is a significant and positive relationship between sports commitment and regular study behavior. This result shows that commitment to sports increases students' motivation to fulfill their academic responsibilities and supports regular study habits. Individuals who show a high level of commitment to sports are seen to have more disciplined and structured work habits. It is stated that regular physical activity helps individuals channel their energy in a constructive way, increase their motivation, provide emotional relaxation and reduce exam anxiety (Singh et al., 2012). This creates a structure that supports academic performance. Fox et al. (2010) emphasize that sports are often the first recommended method for individuals who have academic failure or difficulty in systematic study. This result shows that individuals who are involved in sports may also have higher cognitive skills and academic motivation. In the studies conducted by Gülünay and Savaş (2019), attention was drawn to the positive effects of physical activity level and kinesthetic intelligence on foreign language learning. It has been stated that participation in out-of-school sports activities increases students' commitment to the school and therefore positively affects academic success (Aykora & Uğraş, 2020). Additionally, it is stated that sports activities can support academic performance by improving cognitive functions (Kwak et al., 2009). Stearns and Glennie (2010) state that participation in out-of-school activities helps students develop a positive attitude towards school, which helps them focus

more on their lessons.

In this context, the research findings are both consistent with the literature and clearly show that sports commitment has a constructive and supportive effect on regular study behavior. The research findings overlap with the data in the literature on this subject and strongly support the **H₁** hypothesis.

H₂: Commitment to sports positively affects athlete mental health continuity.

The research findings support hypothesis **H₂**. The data obtained revealed that commitment to sports significantly and positively affects the continuity of students' mental health. This finding shows that participation in sports supports the psychological well-being of individuals, helps them maintain emotional balance and strengthens general mental health. There is a lot of evidence in the literature that sporting activities have positive effects not only on physical health but also on mental health. Similarly, Kan and Ozan (2025) found that athletes' psychological resilience was significantly influenced by factors such as stress and anger control, highlighting its critical role in maintaining mental health. It is particularly emphasized that regular physical activity improves stress management, increases psychological resilience and provides emotional stability in individuals. In this context, it can be said that individuals who show a high level of commitment to sports are in a more advantageous position in terms of mental health continuity. Gonzalez-Hernandez et al. (2017) stated that sports activities improve mental health; Salmon (2001) stated that physical inactivity can be associated with some mental disorders. In this context, it is stated that exercises can be considered as a non-pharmacological treatment method. In this study, it was found that sports commitment has a significant effect on regular studying through the mediating role of mental health continuity. The literature also emphasizes that different dimensions of sports commitment (dedication, enthusiasm, and identification) are associated with athletes' performance and psychological characteristics (Sivrikaya & Biricik, 2019). In this context, the findings indicate that sports commitment is not limited to athletic performance but can also be a decisive factor in academic and psychological processes. Currier et al. (2020) revealed that individuals who exercise have higher levels of physical, mental and psychological well-being. Similarly, a study conducted on athletes engaged in winter sports reported a significant positive relationship between sports commitment and life satisfaction (Han & Polat, 2022). Symons et al. (2022) emphasized that improving mental health has become an important social issue today; They drew attention to the importance of regular sports in overcoming mental and emotional stress. Thakur et al (2020) stated that there is strong evidence for the mental and social benefits of sports participation. Paluska and Schwenk (2000) stated that physical activity plays an important role in the treatment of mental disorders such as depression and anxiety; also stated that sports are sometimes used as part of the treatment of mental illnesses.

In line with all these findings, it can be said that commitment to sports supports the psychological resilience of the individual and has direct positive effects on mental health continuity. The research findings overlap with the data in the literature on this subject and strongly support the **H₂** hypothesis.

H₃: Athlete mental health continuity positively affects regular study behavior.

The research findings support the **H₃** hypothesis. As a result of the analysis, a significant and positive relationship was found between athlete mental health continuity and regular study behavior. This finding reveals that individuals with high mental health continuity tend to fulfill their academic responsibilities more regularly. Students who are psychologically healthy are more effectively able to maintain the self-discipline and motivation necessary to achieve their academic goals. This result is consistent with the literature emphasizing the determining role of psychological well-being on academic performance. Singh et al. (2019) states that physical activity creates positive effects not only physically but also psychologically and socially, and that these effects can directly contribute to academic success. Gülünay and Savaş (2022) stated that students who do regular physical activity have higher foreign language scores, indicating a connection between cognitive functions and mental state. Similarly, Eliöz et al. (2018) emphasize that athletes' sleep quality increases with their training duration, which can positively affect academic performance. Similarly, Eliöz et al. (2018) emphasize that athletes' sleep quality increases with their training duration, which can positively affect academic performance. Travlos (2010) pointed out that high-intensity aerobic exercises can improve cognitive functions and suggested that mental health continuity contributes to learning processes. In a study conducted by Nagla and Kawther (2014) in a social observatory, it was found that recreational activities caused significant improvements in children's emotional intelligence and academic achievement, and there was a positive

relationship between emotional intelligence and academic achievement. This supports the impact of mental health and emotional balance on academic life. Bozanoğlu (2004) stated that individual differences and psychological factors play a major role in obtaining maximum benefit from the quality of education. It has been stated that individual and psychological characteristics, especially talent, motivation, self-esteem, exam anxiety and study habits, are determinants of both success and mental health. In line with all these data, the research findings show that mental health continuity has positive effects on academic discipline and work order and clearly support the H_3 hypothesis.

H₄: Athlete mental health continuity plays a significant mediating role in the effect of sports commitment on regular study behavior.

The mediation analyses conducted in the study support hypothesis H_4 . Analysis findings revealed that athlete mental health continuity plays a significant mediating role in the relationship between sports commitment and regular study behavior. This shows that commitment to sports positively affects regular study behavior not only directly but also through mental health continuity. The results obtained show that students' level of commitment to sports is positively reflected in their academic lives to the extent that it strengthens their mental health. In other words, participation in sports does not directly affect academic behaviors, but rather provides this effect indirectly through the positive change it creates in the individual's psychological well-being. This finding is consistent with previous studies supporting the relationship between mental health and academic success in literature. In this study, the mediating effect between sports commitment and mental health continuity was revealed. Similarly, previous research has reported that psychological resilience and job satisfaction have both direct and indirect effects on organizational commitment (Taşkıran et al., 2024). Ekeland et al., (2005) reported in their research on children and adolescents that physical activities had positive effects on self-esteem, depression, anxiety and behavioral problems. These results reveal that the psychological resilience-enhancing effect of sports is indirectly reflected in the individual's general life functionality and academic performance. Similarly, studies on football fans have shown that commitment significantly shapes emotional and behavioral outcomes (Polat & Sağ, 2024). Similarly, Mumcu and Mumcu (2019) stated that a decrease in the habit of doing regular sports can have negative effects on both physiological and psychological levels; they emphasized that sports should be made a sustainable and regular part of life to prevent these effects. Thus, hypothesis H_4 was empirically confirmed, and a conclusion was reached that is consistent with psychological health-based explanations in the literature.

As a result, in this study, the effects between sports commitment, athlete mental health continuity and regular study behavior were examined, and all hypotheses were supported. The findings show that sports commitment positively affects students' study behavior both directly and indirectly through mental health continuity. In addition, athlete mental health continuity stands out as an important factor that increases regular study. In general, it was concluded that sports are a multifaceted power that supports not only physical but also mental and academic development.

Recommendation

Recommendations for athletes: The findings of this study emphasize the importance of athletes maintaining their commitment to sports to increase their academic success. Athletes should not forget that participation in sports not only strengthens their physical health but also their mental well-being. Regular exercise and sports activities can positively affect study habits by facilitating stress management. Therefore, it is recommended that athletes balance the time they spend on sports in their educational lives and maintain their commitment to sports to continue both their physical and academic development.

Recommendations for readers: Readers are advised to consider the importance of physical activity to increase academic success. Regular exercise not only improves physical health but also provides more discipline and motivation to fulfill academic responsibilities. Students can participate in sports to improve their study routines and discover the potential of this process to directly increase academic success. Benefiting from the mental health-boosting and motivation-boosting effects of sports can be an important strategy for a successful education process.

Recommendations for researchers: It is recommended that researchers examine the interactions between sports commitment and mental health continuity in more depth. This study examined the indirect effects of sports on academic achievement, but studies conducted with larger samples and in different age groups will allow for a better understanding of

this interaction. In addition, considering that the effects of sports on mental health and academic achievement may differ depending on the type of sport, the long-term effects of different sports branches on students should be investigated with more disciplined studies. In addition, variables such as type of sport, gender, age, and age of initiation into sports should also be considered in future studies, and the interactions of these variables should be examined in greater depth.

Limitations

The limitations of this study should be taken into consideration in terms of the generalizability and methodological scope of the findings. The study was conducted with a sample consisting only of student athletes, which limits generalizations to different age groups and sports levels. In addition, the variable of sports year (duration of engagement in sports) was not examined in depth, which may also restrict the interpretation of the findings. The fact that the measurement tools used are based on subjective statements may create an open ground for potential methodological problems such as social desirability bias. Furthermore, the fact that the study was conducted in a specific cultural and socio-economic context makes it uncertain whether similar results can be achieved in different contexts. Considering these limitations, it is recommended that future studies examine these relationships in more depth with larger and more heterogeneous samples, longitudinal designs, and comprehensive analyses that consider multiple factors.

Conclusion

This study has reached important findings by examining the interactions between sports commitment, athlete mental health continuity and regular study behavior. The data obtained show that sports commitment directly and indirectly affects academic success positively. In addition, athlete mental health continuity plays a mediating role between sports commitment and academic behaviors. These results reveal that sports are an important tool not only for physical but also mental and academic development. However, it should not be forgotten that the findings should be supported with a larger sample and different research designs. Future studies can contribute to sports and education policies by examining these multifaceted effects of sports in more depth.

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