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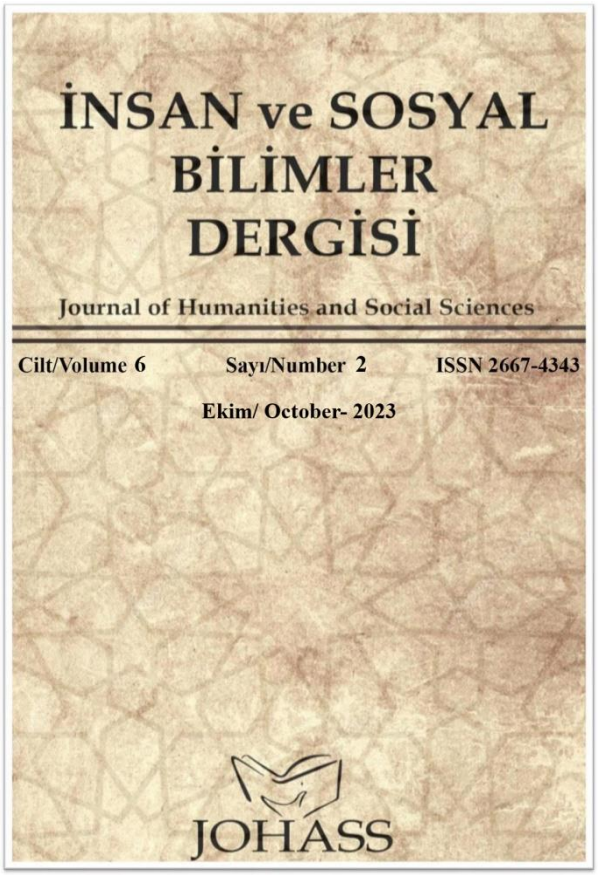


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# Examination of Sports Self-Regulation, Motivational Determination, and Decision-Making Styles in University Students

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# Examination of Sports Self-Regulation, Motivational Determination, and Decision-Making Styles in University Students

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**Abstract**

The aim of this research is to examine the sports self-regulation skills and decision-making skills of students studying at sports science faculties. The study was carried out with a sample group of 224 volunteer participants from Aydın Adnan Menderes University Faculty of Sports Sciences. 35.7% (n=80) of the participants were women and 64.3% (n=144) were men. In the study, it was collected with the "Sports Self-Regulation Scale" to measure sports self-regulation skills, the "Motivational Determination Scale" and the "Rational and Decision-Making Styles Scale" to measure decision-making skills. In the analysis of the data, mean, standard deviation, minimum-maximum-median were calculated from descriptive statistics. Mann Whitney U was used in intergroup comparisons and Spearman Correlation analysis was used to examine the relationships between variables. Linear regression analysis was performed with the variables found significant in univariate analyses. According to the results obtained, students' sports self-regulation skills predict their motivational determination. Again, students' sports self-regulation skills predict both rational decision-making and intuitive decision-making styles. While women have a more intuitive decision-making style than men, men have a more rational decision-making style than women. According to the data obtained in the research, it is recommended that self-regulation trainings should be conducted to improve students' decision-making skills.

**Keywords:** Sporting self-regulation, self regulation, motivational determination, decision-making styles

**Research Article**

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## Introduction

The concept of 'self-regulation', mentioned by Albert Bandura (1988), one of the founders of 'social cognitive theory' in the literature, is used as 'self-regulation' in our language. 'Metacognition' is the individual's awareness of his own thoughts and knowledge about them. Taking this connection into consideration, Bandura addressed the issue of self-regulation with the Social Cognition approach. 'Social Cognitive Approach' emphasizes a person's belief in his personal abilities (self-efficacy), his ability to self-manage (self-management) and his self-motivation (Aydın & Demir, 2014). Self-regulation is the ability of individuals to control and direct their thoughts, feelings and behaviors in achieving their goals. It is knowing how to learn or do a job. Self-regulation is neither an academic skill like reading-writing-calculating nor a mental ability like intelligence. It is a multifaceted process in which mental abilities are transferred to academic skills and individuals can direct themselves (Zimmerman, 1998). Pintrich (2000) defines self-regulation as "an active and constructive process in which students determine their own learning goals, try to regulate their motivation and behavior, and direct and limit their goals and the contextual features of their environment" (Çiltaş, 2011). Self-regulation is explained by Senemoğlu (2009) as observing the individual's own behaviors during the learning process and evaluating, controlling, and directing them according to his own criteria. When the self-regulation process is evaluated in terms of behaviors, people choose the appropriate environment and use time effectively. When evaluated from a cognitive perspective, people make plans, set goals, monitor and evaluate themselves. From a motivational perspective, they value the work they do (Rizemberg & Zimmerman, 1992; Zimmerman, 1990, cited in: Üredi & Üredi, 2007).

Self-regulation skill, which means regulating one's own behavior, can be used in many areas of human life. For example, regulating skills in the academic field is called academic self-regulation. Another example is sports self-regulation, which is the realization of self-regulation skills in the field of sports. Sports are physical activities that people do to be healthy or for competitive purposes (Hoşcan, 2019). Sports are both educational and entertaining pursuits that aim at both physical and mental development (Kılcıgil, 1985). The effect of sports on humans in terms of psychological development has been examined in many studies. In these studies, it is generally stated that doing sports has positive effects on psychological health, strengthens social relationships, increases self-confidence, and contributes positively to a person's self-oriented skills such as stress management (Küçük &

Koç, 2004; Şahin, Baş & Çelik, 2015; Turkay & Demir, 2021). In the study conducted by Davies, Coleman & Babkes Stellino (2016) with 206 athletes, it was found that the satisfaction of basic psychological needs of athletes who regulated their behavior increased. In the study of Robazza et al. (2004), the relationship between athletes' emotional regulation skills and athletic performance was examined and it was determined that there was a positive effect.

Decision-making is an important function for all people and the final intellectual stage that shapes their actions (Kıral, 2015). Decision-making is defined as the process of choosing between different alternatives while reaching one's goal (Miller & Byernes, 2001). Individuals use different decision-making styles when making decisions. Thanks to these different decision-making styles, we can understand why a person uses such different decision processes when faced with seemingly the same situations (Nutt, 1990). Mental processes are used in decision-making. Decision-making involves many cognitive processes (İme & Soyer, 2020). These cognitive actions may sometimes be aimed at evaluating the available data and sometimes at predicting the future. In general, in the decision-making process, the individual determines his goals, collects the necessary information, evaluates this information, and chooses the most appropriate option (Gürçay, 2001). There is a mental regulation in decision-making. Therefore, decision-making is also a regulatory activity (Sağır, 2006). It includes cognitive processes, just like self-regulation.

Determination is the state of having made up your mind about something. In order to achieve the goals, determination must be maintained. It is accepted in the literature that motivational determination is an indicator in achieving a goal or success (Pintrich, 2003; Pintrich & Schunk, 2002). Both determination and self-regulation behaviors have some motivational features. When evaluated from a motivational perspective, people who self-regulate have self-efficacy beliefs and attach high value to their tasks (Rizemberg & Zimmerman, 1992; Zimmerman, 1990, cited in: Üredi & Üredi, 2007). In behavioral sciences, motivation means exposing the individual to certain effects and causing him to act in a different way than he would before these effects occurred. Thus, the fact that an observable change has occurred in the individual's behavior shows that he is motivated (Eroğlu, 2004). It can be said that motivational determination is a self-regulation mechanism (Sarıçam et al., 2014).

Self-regulation in individuals is a basic skill and affects many characteristics of humans. There are studies examining the relationship of self-regulation with motivational

beliefs, self-efficacy perceptions, and characteristics such as burnout (Üredi & Üredi, 2005; Altun, 2006; Karademir et al., 2018; Duru et al., 2014). There are many studies in the international literature that examine decision-making from a self-regulation perspective. However, no study has been found in the domestic literature that deals with self-regulation and decision-making skills together. For this reason, in this research, the relationship between self-regulation and decision-making skills was tried to be examined by focusing on sportive self-regulation due to the study of students at the faculty of sports sciences. The purpose of this research is to examine university students' sports self-regulation, motivational determination, and decision-making styles and to contribute to the literature. The sub-problems determined for this purpose are listed as follows:

1. Do university students' sports self-regulation skills differ significantly according to their demographic and sports characteristics?
2. Do university students' motivational determinations differ significantly according to their demographic and sports characteristics?
3. Do university students' decision-making styles differ significantly according to their demographic and sports characteristics?
4. Is there a relationship between university students' sports self-regulation skills, motivational determination and decision-making styles?
5. Do university students' sports self-regulation skills predict their motivational determination?
6. Do university students' sports self-regulation skills predict their rational and intuitive decision-making styles?

## Method

### Model

A relational screening model was used to evaluate the relationship between university students' sports self-regulation, motivational decision-making, and decision-making styles. In studies carried out in the survey model, studies are carried out on the entire universe or a sample selected from the universe. With the screening model, the general characteristics of the group examined can be explained and the current situation can be described and revealed. In the relational screening model, two or more variables are considered together. With this association, it is investigated whether there is a change or to what extent it is (Karasar, 2012;

Büyüköztürk et al., 2015). In this study, characteristics of the students such as gender, age, class, department, and active sports activities were determined. In addition, data on students' sports self-regulation skills, motivational determination and decision-making styles were collected and analyzed according to demographic characteristics. In addition, the effect of sports self-regulation skills on motivational determination and decision-making styles was examined.

**Sample and Population**

The population of this research consists of students studying at Aydın Adnan Menderes University, Faculty of Sports Sciences. The sample of the study was determined through easily accessible situation sampling, which is one of the non-probability sampling methods, and 224 students who volunteered to participate in the research. The socio-demographic characteristics of the university students participating in the research are presented in Table 1.

**Table 1**

*Socio-Demographic Characteristics of The University Students Participating in The Research*

| | Groups | n | % |
|---|---|---|---|
| Gender | Female | 80 | 35.7 |
| | Male | 144 | 64.3 |
| Age Group | 20 years and under | 88 | 39.3 |
| | 21 years and over | 136 | 60.7 |
| Department | Recreation | 168 | 75.0 |
| | Coaching | 12 | 05.4 |
| | Sports management | 24 | 10.7 |
| | Physical Education and Sports | 20 | 08.9 |

The ages of the university students participating in the research ranged between 17-42, and the average was 22.5 ± 4.39. 35.7% (n=80) of the students are female and 64.3% (n=144) are male. 75% (n=168) of the students participating in the study were interested in recreation, 5.4% (n=12) in coaching, 10.7% (n=24) in sports management, 8.9% (n= 20) is studying in the physical education and sports department. While the socio-demographic characteristics of the students were determined with the personal information form, questions were also asked

to determine some general characteristics of their sports activities. Information about the sports characteristics of the students participating in the research is presented in Table 2.

**Table 2**

*Sports Characteristics of the University Students Participating in the Research*

| | **Groups** | **n** | **%** |
|---|---|---|---|
| Becoming a licensed athlete | Yes | 144 | 64.3 |
| | No | 80 | 35.7 |
| Type of sport of interest | Individual sport | 108 | 42.8 |
| | Team sport | 116 | 51.8 |
| Sports age | 0-5 age | 44 | 19.6 |
| | 6-10 age | 132 | 58.9 |
| | 11 age and above | 48 | 21.4 |

When Table 2 was examined, 64.3% (n=144) of the students participating in the research were actively engaged in sports. 63.4% of the students have a sports license. 42.8% (n=108) of the students were interested in individual sports and 51.8% (n=116) were interested in team sports. When we look at the sports ages of the students participating in the study, which indicates how many years they have been doing sports, it was seen that 19.6% (n=44) had been doing sports for 0-5 years, 58.9% (n=132) had been doing sports for 6-10 years, and 21.4% (n=48) have been doing sports for 0-5 years. It was seen that they had been doing sports for 11 years or more.

## Data Collection Tools

"Sports Self-Regulation Scale", "Motivational Determination Scale", "Rational and Intuitive Decision Making Styles Scale" and "Personal Information Form" were used as data collection tools.

### *Sport Self-Regulation Scale*

In the scale prepared by Akeren & Çingöz (2023), a measurement tool was developed to determine the performance of undergraduate students who are engaged in at least one sports branch within the scope of self-regulation skills. Zimmerman's Self-Regulated Learning Model was taken as the theoretical basis. Validity and reliability studies were carried out on the scale consisting of 18 items. In the analyzes regarding reliability, Cronbach Alpha internal consistency coefficient was calculated as .92 for the overall scale, .84 for

planning, .81 for implementation, .85 for evaluation, and split-half reliability was .88. In the third stage of the research, measurements collected from 53 students four weeks apart were compared and the test-retest reliability was calculated as .98. The results obtained show that the cyclical three-factor structure of the scale is valid and reliable.

***Motivational Commitment Scale***

Sarıçam et al. (2014) adapted the Motivational Determination Scale developed by Constantin et al. (2011) into Turkish. In the confirmatory factor analysis, it was seen that the scale consisted of 13 items, consistent with the original form, and the items were collected in three dimensions (following long-term goals, following current goals, following unattainable goals). The factor loadings of the scale range between .30 and .61. Cronbach's alpha internal consistency coefficients of the scale were found to be .69 for the whole scale and .72, .70 and .71 for the subscales. In the convergent validity study, it was observed that there was a positive (r = .34) relationship between motivational determination and hope. The test-retest correlation coefficient was found to be .66. Corrected item-total correlations range from .31 to .56. Based on these results, it was stated that the Motivational Determination Scale is a valid and reliable measurement tool.

***Rational and Intuitive Decision Making Styles Scale***

In the study prepared by Yakup et al. (2020), the validity and reliability of the rational and intuitive decision-making styles scale was adapted into Turkish and examined. Confirmatory factor analysis results showed that the two-factor structure of the rational and intuitive decision styles scale was confirmed. Within the scope of criterion validity, positive correlations were found between the rational and intuitive decision styles scale and the decision making styles subscales. Cronbach's alpha for the total scale is .80. For the subscale dimensions, it was found to be 0.90 for rational decision making and 0.85 for intuitive decision making. The test-retest correlation value for the entire scale was found to be .86. Research findings have shown that the rational and intuitive decision-making scale has psychometric compatibility with university students in Turkey and can be used in scientific studies.

***Personal Information Form***

The personal information form created by the researcher includes questions about age, gender, and active sports participation.

**Collection of Data and Analysis**

In this study, data was collected by the researcher. While analyzing the data, first the sum of the scores obtained from the three scales in the study was taken and their normal distributions were examined (Çokluk, Şekercioğlu, & Büyüköztürk, 2014). In research, if the sample size is larger than 35, the Kolmogorov-Smirnov (K-S) test can be performed. This test is basically based on the maximum difference between the theoretical and empirical cumulative distribution (Massey, 1951). Cases where the p-value obtained as a result of the test is greater than 0.05 is considered as evidence that the calculated scores show a normal distribution at this significance level (Mertler & Vannatta, 2005). In this study, the Kolmogorov-Smirnov test was applied for the total scores obtained from the scale and the total scores in the sub-dimensions and it was observed that normal distribution was not achieved ($p<0.001$).

In this study, descriptive statistics (mean, standard deviation, maximum-median-minimum) were used when calculating gender, age ratios, and test total scores. Mann Whitney U and Kruskal Wallis H Tests were used when comparing the total test scores between groups. While examining the relationship between the total scores obtained from the test totals, Spearman Rank Difference Correlation Coefficient analysis was used. The value calculated in correlation coefficients between 0.70 and 0.99 indicates a high level of correlation, a value between 0.69 and 0.30 indicates a medium level of correlation, and a value between 0.29 and 0.01 indicates a low level of correlation (Büyüköztürk et al., 2015). This criterion was taken as the basis when evaluating correlation coefficients in the study. In order to examine the effect of sports self-regulation on students' motivational determination and decision-making styles, multiple linear regression analyzes were performed by taking logarithms since the data in the study were not normally distributed. Analyzes in the study were carried out with the SPSS 23 program.

**Compliance With Ethical Standards**

With the decision of Aydın Adnan Menderes University Social and Human Sciences Research Ethics Committee dated 29.09.2023 and numbered 26, the ethics committee approval of the research was obtained.

## Findings

### Findings Regarding The First Sub-Problem

In the first sub-problem of the study, university students' sports self-regulation skills were compared in terms of gender, age, department of education, active sports activity, type of sports they are interested in and sports age variables.

**Table 3**

*University Students' Sports Self-Regulation Skills in Terms of Variables Showing Their Socio-Demographic and Sports Characteristics*

| Variable | | Variable sport self-regulation scale | | p; test value |
|---|---|---|---|---|
| | | Mean±sd | Median (min-max) | |
| Gender | Female | 77.50±14.04 | 80.00 (21.0-90.0) | 0.904; -0.121 |
| | Male | 78.75±8.55 | 80.50 (45.0-89.0) | |
| Age | 20 and under | 81.14±5.80 | 81.00 (69.0-90.0) | **0.05;** -2.826 |
| | 21 and above | 76.47±12.77 | 78.50 (21,0-89,0) | |
| Being a licensed athlete | Yes | 77,86±12.44 | 81.00 (21.0-89.0) | 0.428; -0.793 |
| | No | 79.10±7.04 | 79.00 (68.0-90.0) | |
| Type of sport of interest | Individual spot | 75,67±13.78 | 79.00 (21,0-89,0) | **0.004**; -2.861 |
| | Team sport | 80.76±6.14 | 81.00 (70.0-90.0) | |
| Sport age | 0-5 age | 73.64±17.87 | 77.00 (21.0-89.0) | 0.053; 5.883 |
| | 6-10 age | 78.82±8.61 | 80.00 (45,0- 78.82) | |
| | 11 age and above | 81.17±5.20 | 82.00 (71.0-89.0) | |
| Total | | 78.30±10.81 | 80.5 (21.0-90.0) | |

When Table 3 was examined, it was seen that the scores received by the students from the sports self-regulation scale vary between 21-90. The average score obtained from the sports self-regulation scale was 78.30±10.81, and the median was 80.5. While examining the variables of gender, age, having a sports license and type of sport in two groups, Mann Whitney U test was used for comparisons between groups. A significant difference was found between the groups only in terms of age and sports branch of interest. It was determined that the scores of students in the 20 and under age group on the sports self-regulation scale were higher than those in the 21 and over age group (p = 0.05). Finally, the scores of students

interested in team sports on the sports self-regulation scale were found to be significantly higher than the scores of students interested in individual sports (p = 0.004). When comparing more than two groups in the analyses, the Kruskal Wallis H test was used. There was no significant difference between students' sports self-regulation skills according to sports age.

**Findings Regarding the Second Sub-Problem**

In the second sub-problem of the study, university students' motivational determinations were compared in terms of gender, age, department of education, active sports activity, type of sports they are interested in and sports age variables.

**Table 4**

*University Students' Motivational Determinations in Terms of Variables Showing Their Socio-Demographic and Sports Characteristics*

| Variable | | Motivational commitment scale | | p; test value |
|---|---|---|---|---|
| | | Mean±sd | Median (min-max) | |
| Gender | Female | 46.45±8.33 | 45.00 (30.0-60.0) | 0.417; -0.812 |
| | Male | 45.53±7.94 | 47.00 (35.0-59.0) | |
| Age | 20 and under | 48.95±7.39 | 49.00 (36.0-60.0) | **0.000;** -4.493 |
| | 21 and above | 43.85±7.88 | 43.50 (30.0-60.0) | |
| Being a licensed athlete | Yes | 45.67±8.14 | 46.00 (30.0-60.0) | 0.604; -0.518 |
| | No | 46.20±7.99 | 45.00 (36.0-60.0) | |
| Type of sport of interest | Individual spot | 45.19±7.56 | 45.00 (30.0-60.0) | 0.196; -1.293 |
| | Team sport | 46.48±8.51 | 46.00 (35.0-60.0) | |
| Sport age | 0-5 age | 46.36±9.50 | 46.00 (30.0-60.0) | 0.677; 0.781 |
| | 6-10 age | 45.79±7.49 | 45.00 (35.0- 60.0) | |
| | 11 age and above | 45.58±8.36 | 45.00 (35.0-59.0) | |
| Total | | 45.85±8.07 | 4550 (30.0-60.0) | |

When Table 4 is examined, it was seen that the scores the university students received from the motivational determination scale vary between 30-60, the average score is 45.85±8.07 and the median value is 45.50. When comparisons were made between groups, no significant difference was found between the scores obtained from the scale in terms of gender, having a sports license, type of sport of interest and sports age variables. When the age variable was examined, it was found that the motivational stability scale scores of students aged 20 and under were significantly higher than those of students aged 21 and over (p = 0.000).

**Findings Regarding The Third Sub-Problem**

In the second sub-problem of the study, university students' decision-making styles were compared in terms of gender, age, department of education, active sports activity, type of sports they are interested in and sports age variables. In this section, first the rational decision-making styles dimension of the rational and intuitive decision-making styles scale was examined, and then the intuitive decision-making styles were evaluated.

**Table 5**

*Unuversity Students' Rational Decision-Making Styles in Terms of Variables Showing Their Socio-Demographic and Sports Characteristics*

| | | Rational decision making styles scale | | |
|---|---|---|---|---|
| | | Mean±sd | Median (min-max) | p; test value |
| Gender | Female | 21.05±5.04 | 23.00 (5.0-25.0) | **0.028;** -2.192 |
| | Male | 21.19±2.48 | 22.00 (16.0-25.0) | |
| Age | 20 and under | 20.95±2.95 | 22.00 (14.0-25.0) | 0.105; -1.621 |
| | 21 and above | 21.26±3.97 | 22.50 (5.0-25.0) | |
| Being a licensed athlete | Yes | 20.75±3.70 | 22.00 (5.0-25.0) | **0.010**; -2.592 |
| | No | 21.85±3.31 | 22.50 (14.0-25.0) | |
| Type of sport of interest | Individual spot | 20.48±4.28 | 22.00 (5.0-25.0) | **0.049**; -1.968 |
| | Team sport | 21.76±2.69 | 22.00 (16.0-25.0) | |
| Sport age | 0-5 age | 20.82±5.49 | 22.00 (5.0-25.0) | 0.063; 5.530 |
| | 6-10 age | 21.00±2.81 | 22.00 (16.0- 25.0) | |
| | 11 age and above | 21.83±3.35 | 22.50 (14.0-25.0) | |
| Total | | 21.14±3.60 | 22.0 (5.0-25.0) | |

When Table 5 was examined, it is seen that the university students' rational decision-making style scores vary between 5-25. The average score obtained from the rational decision-making style scale was calculated as 21.14±3.60, and the median was 22. When students' rational decision-making styles were compared in terms of groups, a significant difference was detected in terms of gender, being a licensed athlete and the type of sports they are interested in. No significant difference was detected between the groups in terms of age and sports age variables. It was found that the scores of male students on the rational decision-making styles scale were significantly higher than the scores of female students ($p = 0.028$). Test scores of those who do not have a sports license are significantly higher than those who have a sports license ($p = 0.010$). It was determined that the rational decision-making styles scores of students interested in team sports were significantly higher than those of students interested in individual sports ($p = 0.049$).

**Table 6**

*University Students' İntuitive Decision-Making Styles in Terms of Variables Showing Their Socio-Demographic and Sports Characteristics*

| | | İntuitive decision making styles scale | | |
|---|---|---|---|---|
| | | Mean±sd | Median (min-max) | p; test value |
| Gender | Female | 20.15±5.82 | 22.00 (5.0-25.0) | **0.000; -4.366** |
| | Male | 18.28±3.86 | 18.00 (9.0-25.0) | |
| Age | 20 and under | 20.14±3.84 | 19.00 (12.0-25.0) | **0.024**; -2.261 |
| | 21 and above | 18.18±5.09 | 19.00 (5.0-25.0) | |
| Being a licensed athlete | Yes | 18.14±4.59 | 18.00 (5.0-25.0) | **0.000**; -3.656 |
| | No | 20.40±4.65 | 21.00 (9.0-25.0) | |
| Type of sport of interest | Individual spot | 18.59±5.46 | 19.00 (5.0-25.0) | 0.740; -0.332 |
| | Team sport | 19.28±3.93 | 18.00 (11.0-25.0) | |
| Sport age | 0-5 age | 17.36±5.82 | 18.00 (5.0-25.0) | **0.044;** 6.226 |
| | 6-10 age | 19.12±4.04 | 18.00 (10.0-25.0) | |
| | 11 age and above | 1992±5.13 | 21.50 (10.0-25.0) | |
| Total | | 18.95±4.73 | 19.0 (5.0-25.0) | |

*Students who have been doing sports for 0-5 years have significantly lower scores than students who have been doing sports for 11 years or more.

When Table 6 is examined, it was seen that the university students' intuitive decision-making styles scores vary between 5-25. The average score obtained from the intuitive decision-making style scale was calculated as 18.95±4.73, and the median was 19. When students' intuitive decision-making styles were compared across groups, it was determined that women received significantly higher scores than men (p=0.000). When evaluated in terms of age groups, it was seen that students aged 20 and under received higher scores than students aged 21 and over (p = 0.024). Those without a sports license also have significantly higher scores than those with a sports license (p=0.000). When evaluated according to the sport age variable, the scores of students who have been doing sports for 0-5 years have significantly lower scores than those of students who have been doing sports for 11 years or more (p=0.044).

**Findings Regarding The Fourth Sub-Problem**

In the fourth sub-problem of the study, the correlation between university students' sports self-regulation, motivational determination and decision-making styles was examined.

**Table 7**

*Correlation Test Findings Between University Students' Sports Self-Regulation, Motivational Determination, Rational and Intuitive Decision-Making Styles*

| | | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| Sport Self-Regulation Scale | r | 1 | | | |
| | p | | | | |
| Motivational Commitment Scale | r | 0.746 | 1 | | |
| | p | **<0.001** | | | |
| Rational Decision Making Styles Scale | r | 0.287 | 0.292 | 1 | |
| | p | **<0.001** | **<0.001** | | |
| Intuitive Decision Making Styles Scale | r | 0.460 | 0.428 | 0.392 | 1 |
| | p | **<0.001** | **<0.001** | **<0.001** | |

When Table 7 is examined, it was seen that all variables in the study have a significant relationship with each other (p<0.001). There was a high level of relationship between sports self-regulation skills and motivational determination (r = 746). Intuitive decision-making styles and sports self-regulation A moderate (r=460) significant relationship was found between intuitive decision-making styles and motivational determination, while a low-level relationship was found between rational decision-making styles and motivational determination. There is a moderately significant relationship between the two sub-dimensions of melodic decision-making and rational decision-making styles (r = 0.392).

**Findings Regarding The Fifth Sub-Problem**

In the fifth sub-problem of the study, it was examined whether university students' sports self-regulation *skills affected motivational stability.*

**Table 8**

*Simple Regression Analysis Results on The Effect of University Students' Sports Self-Regulation Skills Scale and İts Sub-Dimensions on Motivational Stability*

| Variable | B | Standard error | β | t | p | |
|---|---|---|---|---|---|---|
| Constant | 1.024 | 0.114 | | 8.974 | 0.000 | R=0.453 $R^2$= 0.205 |
| Sportive self-regulation | 0.522 | 0.069 | 0.453 | 7.572 | 0.000 | F=57.331 (p=0.000) |
| Constant | 0.669 | 0.108 | | 6.182 | 0.000 | R=0.419 $R^2$=0.175 |
| Planning | 0.449 | 0.065 | 0.419 | 6.870 | 0.000 | F=47.196 (p=0.000) |
| Constant | 0.422 | 0.125 | | 3.363 | 0.001 | R=0.460 $R^2$=0.212 |
| Practice | 0.585 | 0.076 | 0.460 | 7.721 | 0.000 | F=59.617 (p=0.001) |

| | | | | | | |
|---|---|---|---|---|---|---|
| Constant | 0.524 | 0.135 | | 3.867 | 0.000 | R=0.408 $R^2$=0.166 |
| evaluation | 0.544 | 0.082 | 0.408 | 6.650 | 0.000 | F=44.225 (p=0.000) |

*Motivational Stability- (Dependent Variable) Constant

According to the regression analysis results, it was determined that sports self-regulation was a predictor of motivational determination (F(1-506)= 57.331, p<0.001). Students' sports self-regulation skills explain 20% of their motivational determination. The remaining part of students' motivational determination is explained by different variables. When evaluated in terms of the sub-dimensions of sportive self-regulation, it was determined that planning skills affected motivational determination by 17%, implementation skills by 21%, and evaluation-related skills by 16%.

**Findings Regarding The Sixth Sub-Problem**

In the sixth sub-problem of the study, it was examined whether university students' sports self-regulation skills affected their rational and intuitive decision-making styles.

**Table 9**

*Simple Regression Analysis Results Regarding The Effect of University Students' Sports Self-Regulation Skills Scale and Its Sub-Dimensions on Rational Decision-Making Style*

| Variable | B | Standart Error | β | t | p | |
|---|---|---|---|---|---|---|
| Constant | .920 | .040 | | 22.790 | 0.000 | R=0.850 $R^2$= 0.723 |
| Sportive self regulation | .735 | .031 | 0.850 | 24.045 | 0.000 | F=578.156 (p=0.000) |
| Constant | -0.119 | 0.068 | | -1.762 | 0.079 | R=0.819 $R^2$=0.670 |
| Planning | 1.016 | 0.048 | 0.819 | 21,234 | 0.000 | F=450.887 (p=0.000) |
| Constant | 0.160 | 0.059 | | 2.687 | 0.000 | R=0.794 $R^2$=0.631 |
| Practice | 0.832 | 0.043 | 0.794 | 19.575 | 0.001 | F=379.292 (p=0.000) |
| Constant | 0.186 | 0.058 | | 3.215 | 0.002 | R=0.795 $R^2$=0.632 |
| Evaluation | 0.794 | 0.041 | 0.795 | 19.541 | 0.006 | F=381.837 (p=0.000) |

*Rational decision-making style- (Dependent Variable) Constant

When the regression analysis results were evaluated, it was determined that sports self-regulation skills predicted rational decision-making style (F(1-506)= 578,156, p<0.001). University students' sports self-regulation skills explain 72% of rational decision-making. When examined in terms of sports self-regulation skill sub-dimensions, planning skills affect rational decision-making styles by 67%, implementation skills by 63%, and evaluation skills by 63%.

**Table 10**

*Simple Regression Analysis Results on The Effect of University Students' Sports Self-Regulation Skills Scale and İts Sub-Dimensions on Intuitive Decision-Making Style*

| Variable | B | Standart error | β | t | p | |
|---|---|---|---|---|---|---|
| Constant | 1.490 | 0.050 | | 29.751 | 0.000 | R=0.472 $R^2$= 0.223 |
| Sportive self regulation | 0.315 | 0.040 | 0.472 | 7.972 | 0.000 | F=63.546 (p=0.000) |
| Constant | 0.142 | 0.133 | | 1.067 | 0.287 | R=0.493 $R^2$=0.243 |
| planning | 0.792 | 0.094 | 0.493 | 8.434 | 0.000 | F=71.129 (p=0.000) |
| Constant | 0.628 | 0.119 | | 5.259 | 0.000 | R=0.335 $R^2$=0112 |
| practice | 0.455 | 0.086 | 0.335 | 5.302 | 0.001 | F=28.111 (p=0.000) |
| Constant | 0.336 | 0.107 | | 3.141 | 0.002 | R=0.502 $R^2$=0.252 |
| evaluation | 0.649 | 0.075 | 0.502 | 8.656 | 0.000 | F=74.928 (p=0.000) |

*Intuitive decision-making style- (Dependent Variable) Constant

When Table 10 was examined, it was determined that sports self-regulation skills predicted intuitive decision-making style (F(1-506)= 63,546, p<0.001). Students' sports self-regulation skills explain 22% of intuitive decision-making. In the sub-dimensions of sports self-regulation, planning skills affect intuitive decision-making by 24%, application skills by 11%, and evaluation skills by 25%.

## Discussion and Results

In this research, the sports self-regulation skills, motivational determination, and decision-making styles of university students studying at sports science faculties were examined. In the study, it was determined that the average score of the university students from the sports self-regulation scale was 78.30±10.81, and the median score was 80.5. Although it has been seen in the Turkish literature that features such as sportive self-confidence have been examined in studies focusing on sportive skills (Çiftçi et al., 2021), no study has been found examining the sportive self-regulation skills of people interested in sports. In the international literature, it is seen that there are studies on sports personal regulation, self-regulation in sports, and self-regulation in different types of sports (Akeren & Çingöz, 2023; Hardy & Nelson, 1988; McCormick et al., 2019; Popa et al., 2020). When evaluated from this perspective, It is seen that this study contributes to the literature.

In this research, it was determined that university students who were interested in team sports had significantly higher scores in both their sports self-regulation skills and rational decision-making style than those who were interested in individual sports. It is believed that

working in a group increases motivation, helps to set goals and strengthens communication There are some examples of studies on this subject in the literature. For example, Hotaman (2009) examined students' general habits of working independently, working with a partner, or working in a group. It has been determined that working with a partner or working in a group creates significant differences compared to individual working. Again, some different studies have shown that working in a group contributes to people in terms of knowledge and skills, and in some studies, it even increases academic success (Şimşek et al., 2005; Bekmezci & Ünlü, 2007). For this reason, it can be said that group activities that people do, including sports activities, have positive effects on their lives in general. Individual study activities are of course also important, but it is obvious that group activities support people in acquiring self-regulation skills. The high rational decision-making scores of students involved in team sports suggest that their sense of responsibility towards the group causes them to act rationally rather than intuitively.

In the study, it was determined that the average score of the university students from the motivational determination scale, which can be obtained at most 65 points, was 45.85±8.07 and the median value was 45.50. There are some examples of studies using the motivational commitment scale used in this research. For example, this scale was used in the Demir & Peker (2017) study and motivational determination was found to be a negative predictor of school burnout. In the study of Tarhan & Şar (2021), it was stated that motivational determination is an important predictor of performance. There are examples of studies in the literature examining the factors affecting motivational determination. In one of these, Ekinci & Hamatra (2020) study, the effect of the perseverance training program on motivational determination was examined. In Polat's (2020) study, the effect of moral identity on motivational determination was examined. In this study, it was determined that there were significant relationships between the examined sports self-regulation, motivational determination, and decision-making styles ($p < 0.001$). A moderate ($r=460$) significant relationship was determined between intuitive decision-making styles and sports self-regulation. While there was a moderate ($r=428$) significant relationship between intuitive decision-making styles and motivational determination, a low-level relationship was found between rational decision-making styles and motivational determination. There is a moderately significant relationship between the two sub-dimensions of the decision-making styles scale, melodic decision-making and rational decision-making styles ($r = 0.392$). No research on the relationship between this variable has been found in the domestic literature.

For this reason, it is thought that this study will contribute to the relevant literature. When looking at the international literature, it can be seen that there are studies that address the nature and development of decision-making as a self-regulation model (Byrnes, 2013). In fact, in some applied studies, some programs such as obesity prevention have been created by considering self-regulation and decision-making skills together (Riggs et al., 2007). There are examples of studies where academic decision-making processes are also discussed in terms of self-regulation (Miller & Byrnes, 2001a). It has been stated in studies that the ability to make good decisions generally includes a self-regulation perspective (Miller & Byrnes, 2001b).

Another remarkable result obtained in the research was determined in decision-making styles. Male students received higher scores on the rational decision-making style scale than females. In the intuitive decision-making style scale scores, females received higher scores than male students. This shows that women make more decisions with their intuition, while men make more rational decisions. There are some examples of studies in the literature examining people's decision-making styles. Kelecek et al. (2013) examined the decision-making styles of athletes in their study, but no significant difference was detected between men and women in terms of gender. In their study, Köksal & Gazioğlu (2007) examined the decision-making strategies of adolescents and found that female students received higher scores than male students in the logical decision-making dimension. In their study, Demir et al. (2018) examined the decision-making styles of individual and team athletes, but no difference was detected in terms of gender.

In this study, it was determined that there was a high level of relationship between university students' sports self-regulation skills and motivational determination (r = 746). In this study, it was revealed through analysis that sportive self-regulation is a predictor of motivational determination. Self-regulation skills explain 20% of motivational determination. When evaluated in terms of the sub-dimensions of sportive self-regulation, it was determined that planning skills affected motivational determination by 17%, implementation skills by 21%, and evaluation-related skills by 16%. This result is considered important in terms of the effect of focusing on self-regulation skills in improving people's determination skills.

In the study, it was determined that sportive self-regulation was also an important predictor of rational decision-making style, one of the decision-making styles. Sportive self-regulation skill explains 72% of decision-making ability. When examined in terms of sports self-regulation skill sub-dimensions, planning skills affect rational decision-making styles by 67%, implementation skills by 63%, and evaluation skills by 63%. This is a high rate. It has

been determined that athletic self-regulation skill is also a predictor of intuitive decision-making, which is another decision-making style. In analyzes where a lower effect was detected compared to rational decision-making, sportive self-regulation explained 22% of intuitive decision-making. In the sub-dimensions of sports self-regulation, planning skills affect intuitive decision-making by 24%, application skills by 11%, and evaluation skills by 25%. This shows that self-regulation skills filter the issue they deal with more through the mind during the decision-making process. The fact that self-regulation skills also affect intuitive decisions may have caused people with these skills to trust their intuition because they are more successful.

In this study, it was determined that university students' sport self-regulation skills are related to their decision-making skills and especially rational decision-making style is a very important predictor. It was found that those who were interested in team sports made more rational decisions than those who were interested in individual sports; men had higher rational decision-making style scale scores than women; and women had higher intuitive decision-making style scale scores than men. Both intuitive decision-making and rational decision-making styles were found to have a significant relationship with motivational determination and sport self-regulation. Sportive self-regulation skill also has a significant relationship with motivational determination. Sportive self-regulation is also an important predictor of motivational determination. All these results reveal how important self-regulation skills are. In our education system, individuals should receive education to develop self-regulation skills.

## Recommendations

Some suggestions were made based on the findings obtained in the research. Programs can be applied to university students to improve their self-regulation skills, and to sports science faculty students to improve their sports self-regulation skills. Similarly, programs can be implemented to improve students' decision-making skills. For all age groups, there are sports, arts, academic studies, etc. where students can work in groups. It can be directed to all kinds of activities. Screening studies can be increased to determine the characteristics of students regarding these variables. The relationships between students' sports self-regulation skills and different variables can be examined.

## Compliance With Ethical Standards

With the decision of Aydın Adnan Menderes University Social and Human Sciences Research Ethics Committee dated 29.09.2023 and numbered 26, the ethics committee approval of the research was obtained.

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