

## **Determination of the Interest of University Students Studying Sports towards Sports Startups Initiatives**

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### **Abstract**

The research aim is to determine the interest of university students studying sports at undergraduate level towards sports startups. The data collection tool in the research consists of two parts; the first part includes the Personal Information Form consisting of 7 questions, while the second part uses the Sports Startups Interest Scale developed by the researcher, consisting of 21 questions and 6 sub-dimensions. While the population of the research consists of students receiving sports education in Turkey, the sample consists of 1409 students. The data obtained in the research were transferred to the licensed SPSS 21.0 programme. Before the analyses were performed, a normality analysis was performed and it was determined that the data obtained showed normal distribution. Then, percentage, frequency and standard deviation values were determined in terms of the variables determined in the research. Due to the normal distribution of the data obtained, independent simple t-test and one-way analysis of variance (ANOVA) tests were preferred in the research. Pearson correlation test was applied to determine the relationships between the sub-dimensions of the Sports Startups Interest Scale and the total average of the scale. As a result of the answers given by university students studying sports to the sports startups interest scale, it is concluded that there is no significant difference between the variables of gender, age, department, monthly household income, while it is concluded that there is a significant difference in the variables of university, class and startup usage.

**Keywords:** University, Sports Education, Student, Startup, Sport Startups

## Introduction

In the 21st century, information, technology, the internet and communication, which have experienced very rapid changes, have changed the functioning of many sectors. In addition, as a result of this change, new actors begun to rapidly enter these sectors and actors of sufficient size have emerged to create their own sectors. These are startups, which are referred to by different expressions such as new generation initiatives. The word startup, which is English in origin, is called as a newly established company, technological initiative or innovative initiative. In addition, the digitalisation process in the world, the developing living conditions and the increase in the world population have created some problems, and it is seen that initiatives and startups are increasing their presence in our lives in solving these problems.

In order to understand the concept of startup, the concept of entrepreneurship must first be defined. Entrepreneurship is seen as a form of mentality that emerges at the level of making decisions about business life and its most important feature is to pursue innovation and to bring innovation. In other words, an entrepreneur is an individual who can create a new composition by mixing existing resources (Schumpeter, 1939). In this respect, it creates new leaps on the existing balances and existing stagnation in the relevant field with the innovation put forward. Of course, these leaps lie at the basis of economic development. Basically, in order to talk about entrepreneurship, the product or service involved in the enterprise must be suitable for marketing, in other words, it must be commercially valuable and this product must not have an equivalent in the existing market or must have a distinctive feature from its counterparts (Dereli vd., 2006).

Entrepreneurship generally arises from the interaction between an individual's characteristics and the broader business environment (Ajzen, 1991). Entrepreneurs reconfigure existing or available resources, shifting them from less favourable contexts to areas of greater potential. They also assess opportunities by identifying new markets or developing additional business lines (Ardichvili, 2003). They are also expected to demonstrate attributes such as innovativeness, creativity, autonomy, and a willingness to take risks in uncertain conditions (Gorman, Hanlon & King, 1997).

First of all, it is necessary to say that there is not a single word to qualify the word startup, the concept is used in general meanings such as 'beginning, starting, initiation'. When we look at the definitions of the word startup in different dictionaries; It is defined as 'young innovative company' in Tureng Dictionary, 'company that has just started working' in Oxford Dictionary, and 'a new business venture' in Merriam Webster Dictionary (Bilici, 2019). In Turkey, startups have been named in different ways. When we look at these names, it is seen that expressions such as techno-initiative, technology-based startup company, new venture or new techno-initiative are used (Şahin, 2018). It is seen that there are many definitions about startups. Looking at these definitions, startups are companies that are in the first stage of their activities and these companies are invested mainly by their entrepreneurs in order to benefit from a good or service that is believed to be in demand (Grant, 2024).

Another definition states that a startup is designed to grow rapidly. However, the fact that a company is newly established does not necessarily mean that it is a startup. For this, it is not considered necessary to work on technology, to receive venture financing or pursue an exit. When we look at the definitions, while many important points are mentioned about the startup initiative, one of the most important ones is that they are technology-based and focused on rapid growth (Kolosok & Koniukh, 2017).

It is seen that startups are located in different sub-sectors and have disruptive features within their sector. It is seen that there are many startups that have been established especially in recent years and whose market value has reached million dollars or even billion dollars. These startups with a market value of over \$ 1 billion are called unicorns. In particular, it is seen that unicorn startups are mostly located in the USA (50%) and China (19%), and there are approximately 832 unicorn startups as of 2021. In addition the 5 most valuable unicorns globally are ByteDance, stripe, SpaceX, Klarna and Canva. While it is seen that the most startup companies are in the Fintech sector, it is also seen that the number of startups related to internet software and services, e-commerce-direct-to-consumer, artificial intelligence and the health sector is extremely high (CBinsights, 2021).

While all startups are considered as enterprises, not all enterprises are considered as startups. Here, it is necessary to see startups as structures that can penetrate the market in a short time and aim to become a global brand. Another important element related to startups is the culture they have created and to adopt this culture to their employees. Here, Startup culture includes a sincere and dynamic business environment where group members can take initiative (Şen, 2022).

Looking at the activities of startups that are successful by looking at the change that startups have experienced in the sector; It can be given as an example that a company that has no hotel or tourism facility within its own structure is a business that provides services to people around the world with an application that allows people to find a hotel, in the same way, it can offer food ordering services to people without owning a restaurant, or it can turn into highly successful companies that offer transport services to people without any car through an application. In addition to the aforementioned examples, it is possible to mention startups that have achieved success in various sectors. When the sectors in which startups are active are examined; artificial intelligence, health and life sciences, robotics and advanced production, new media and communication tools, blockchain, cyber security, digital gaming, agricultural technologies, financial technologies, automotive, consumer electronics, agricultural technologies, advertising technologies (Kişi, 2018). In addition to the concept of a startup, it is also used as a venture. Based on this concept confusion, the differences between startups and ventures can be analysed under five headings (Özsoy, 2021):

- **Exponential Growth Capability:** While a startup is a venture, a venture is not characterised as a startup. In order to be called a startup, a startup must have a high rate of growth. For example, looking at the growth rate of Amazon.com, it is seen that it was 136 thousand per cent between 1995 and 2016.
- **Exit Strategy:** The aim of an ordinary entrepreneur is to generate income by selling goods and services and to transfer this business to future generations and want it to be long-lasting. However, one of the biggest differences of the startup entrepreneur is that one day he can exit the startup by selling all his shares. In this way, the entrepreneur can earn income not only from the sale of goods and services, but also from the sale of shares that gain value.
- **Creative Disruption Feature:** Startups need to focus on big targets in order to scale rapidly. Even at the very beginning, the startup wants to create an uproar in the sector in which it is located by showing a creative disruptive feature in the sector in which it will be located. The best example of this is the chaos created by Uber in the transport sector.
- **High Risk Appetite:** With the growth of companies, entrepreneurs avoid taking risks because they do not want the company to go backwards from the position it has reached. However, startups have a high level of risk appetite regardless of their position. It can suddenly change

its goods and services, differentiate its customer base or change the organisation of the company.

- Failure to Make Financial Assessments with Classical Methods: In evaluating a company, it can be determined through various analyses such as cash flow or financial ratios. However, some startups may not generate income for an extended period. There is no meaningful relationship between the investments they have made by taking risks and the income obtained. Since the financial evaluations made in startups will not work, the experience and skills of the team, the dedication to the project or the innovation of the goods and services, etc. criteria are used.

Teams use wearable technologies and data analysis to prevent injuries and improve player performance. Technological developments in the sports sector can help referees to make informed decisions by presenting the decision-making processes of referees and coaches by presenting the data of athletes during the game. With technologies such as virtual reality and augmented reality, they offer fans an immersive gaming experience. In this respect, sports startups help both teams and athletes gain a competitive advantage and outperform their rivals, while also helping organizations and developing products for the data to be obtained (Startupcity, 2019).

According to the 'The State of Turkish Gaming Ecosystem' report of the Turkish Investment Office for 2024, the number of active gaming startups in Turkey is 814, the number of gaming incubation centres is 12 and the number of gaming accelerators is 21. Among the startups in the gaming industry, there are 2 unicorn startups and 5 startups have exited. When the sports startups in Turkey are analysed, the most invested startups are Dream Games 105 million dollars, Spyke Games 105 million dollars, Peak Games 34 million dollars and Libra Games 30 million dollars (Turkey Investment Office Report, 2024).

It is evident that the number of startups is increasing today in terms of the number and qualifications of their users, and the number of sports startups in this field is increasing in terms of the products and services they have put forward. Especially considering the increase in smartphones, internet and other mobile devices, the number of these startups in the sports industry will be higher in the future and will lead to much more innovative products and services as a result of integration with other mobile devices. Following the inclusion of technology in the sports industry, it has paved the way for the increase of companies producing products and services in this field and the qualitative development of the outputs in this field.

The number of sports technology initiatives is increasing and paves the way for the development of the sports sector. It enables the development of sports technologies that emerged as a result of strong ties between sports and technology. With the development of sports technologies, sports startup initiatives contribute to the development of this field through products or services that both develop these technologies and develop existing technologies by adding or developing different virtual environments. Sports startups, which are becoming more and more important in the sports sector day by day, will gain more importance in terms of the products and services they offer in terms of all stakeholders (fans, athletes, coaches, clubs, federations, organisations, etc.) in the field of sports. In this respect, considering that university students receiving sports education are among the stakeholders of the sports field both in their current lives and in the future, their interest in sports startups is also an important issue. In this study, it is aimed to determine the interest of university students studying sports towards sports startups. This study is the first of its kind to be conducted on sports startups in the national literature, and it therefore contributes to the field.

## Material and Method

### Ethics Committee Permission

Firat University Social Sciences and Humanities Research Ethics Committee decided that it was in compliance with the ethical rules with the meeting number 21 and decision number 1 dated 15.10.2021.

### Research Model

This research, conducted to determine the interest of university students receiving undergraduate sports education in Turkey towards sports startups, was carried out as a quantitative research using the survey model. The survey model is defined as a research model in which a situation in the past and present is carried out as it is without affecting the variables in any way in the conditions of the individual or object in the research (Karasar, 2012).

### Population-Sample (Study Group)

The population of the study consists of students studying at universities providing undergraduate level sports education in Turkey. Prior to the data collection process, at least 3 universities from each geographical region of Turkey were planned to participate (100 students from each university); as a result of the disruptions in the necessary permissions and the earthquakes in Turkey in 2023; 1409 students studying at Balıkesir University, Uşak University, Harran University, Mardin Artuklu University, Sakarya University of Applied Sciences, Munzur University, Firat University, Bingöl University, Akdeniz University, Bitlis Eren University, Gümüşhane University, Erciyes University, Burdur Mehmet Akif Ersoy University, Bartın University, Muğla Sıtkı Koçman University. The reason for the selection of students from these universities is the ease of access to these universities.

### Data Collection Tools

Researchers carried out the scale development period. In the process of developing the scale, a conceptual review of sports start-ups was first conducted. Next, the products and services offered by these start-ups were examined. Finally, an item pool was created. To ensure content validity, two experts in entrepreneurship and two experts in sports science evaluated the items in the item pool. The resulting question pool, consisting of 46 items in total, was administered to 341 students at the Faculty of Sports Sciences at Firat University. A total of 313 students were included in the exploratory factor analysis. The Kaiser–Meyer–Olkin (KMO) coefficient and Bartlett's sphericity test were used to assess the suitability of the data for factor analysis. Exploratory and confirmatory factor analyses, as well as Cronbach's alpha reliability analysis, the 27% upper-lower group method, composite reliability, and average variance techniques, were employed to ascertain the scale's validity and reliability.

As a result of the analysis conducted, the data collection tool used in the research consists of two parts. The first part includes questions about the demographic information of the university students participating in the study (Gender, Age, University, Department, Class, Average Monthly Household Income). In the second part, the Sports Startups Interest Scale (SSIS) consisting of 21 items and 6 sub-dimensions developed and validated by the researcher was used. There are no reverse items in the scale. A 5-point Likert scale is used in the scale, and the lowest rating is 'Strongly Disagree' and the highest rating is 'Strongly Agree'.

When the data belonging to the Sports Startups Interest Scale were analysed, it was found that the KMO coefficient was .887, the variance explained was 66.724%, the goodness of fit indices obtained as a result of confirmatory factor analysis were  $\chi^2/df=1.511$ , AGFI=.903,



GFI=.927, CFI=.963, NFI=.900, TLI=.955, IFI=.964, RMSEA=.040, PNFI=.742, PGFI=.694 and finally Cronbach's alpha coefficient value was calculated as .896. In this respect, it is concluded that it is a valid and reliable measurement tool. When the CFA model of the sports startups interest scale is examined; Between 0.66 and 0.85 in the fan interest sub-dimension, between 0.69 and 0.75 in the benefit to sports sub-dimension, between 0.63 and 0.74 in the socialization sub-dimension, between 0.70 and 0.83 in the career plan sub-dimension, between 0.61 and 0.74 in the usage interest sub-dimension, and between 0.68 and 0.74 in the individual interest sub-dimension. Examining the Average Variance Extracted values revealed that the first factor was .565, the second factor .558, the third factor .509, the fourth factor .633, the fifth factor .539 and the sixth factor .534. Examining the composite reliability values revealed that the first factor was .838, the second factor .834, the third factor .804, the fourth factor .838, the fifth factor .776 and the sixth factor .771.

### Data Collection

The research population consists of students enrolled on bachelor's degree programmes in Physical Education at universities in Turkey. It was originally planned to include at least three universities from each geographical region of Turkey in the data collection process. However, due to delays in obtaining the necessary permits and the earthquakes that occurred in Turkey in 2023, only 1,409 students were reached. Students from these universities were selected due to ease of access. In the research, the sports startup interest scale was applied to university students studying sports at state universities in Turkey. The students participating in the research were reached both face-to-face and online (Google Forms). By providing preliminary information about Startups and Sports Startups in the explanation text of the scale, it was ensured that the participants clearly understood the concept and did not experience confusion. Then, they were asked to answer the scale items. The participants who participated in the research participated voluntarily.

### Data Analysis

The data obtained within the scope of the research were evaluated with SPSS 21.0 programme. The data obtained were firstly evaluated with normality analysis and the kurtosis and skewness values were examined and it was concluded that the data to be used in the research showed normal distribution. Evaluation criteria such as frequency, percentage, mean and standard deviation were used to reveal the demographic and determinant characteristics of the participants. Since the participants showed normality distribution, t-test and anova test were used in the research. Pearson correlation analysis was used to determine the relationships between the sub-dimensions of the scale.

### Research Publication Ethics

This research is structured in accordance with the Helsinki Declaration 2008 Principles for the protection of privacy and confidentiality. During the current research, the "Directive on Scientific Research and Publication Ethics of Higher Education Institutions" was followed.

### Findings

In this part of the study, the findings obtained as a result of the analysis of the data obtained from university students studying sports through Personal Information Form and Sports Startups Interest Scale are presented.

**Table 1.** Distribution of participants according to demographic variables

	Subcategories	f	%
Gender	Female	508	36.1

	Male	901	63.9
Age	18-20	337	23.9
	21-23	813	57.7
	24-26	187	13.3
	27 and above	72	5.1
Department	Physical Education and Sports Teaching	306	21.7
	Sport Management	520	36.9
	Coaching	447	33.5
	Recreation	111	7.9
Class	1. Class	246	17.5
	2. Class	279	19.8
	3. Class	381	27.0
	4. Class	503	35.7
Monthly Household Income	13000-18000 TL	609	43.2
	18001-23000 TL	361	25.6
	23001-28000 TL	201	14.3
	28001-33000 TL	238	16.9
Using Startup	Yes	574	40.7
	No	835	59.3
University	Balıkesir University	99	7.0
	Uşak University	98	7.0
	Harran University	141	10.0
	Mardin Artuklu University	110	7.8
	Sakarya Uygulamalı Bilimler University	75	5.3
	Munzur University	130	9.2
	Fırat University	138	9.8
	Bingöl University	143	10.1
	Akdeniz University	25	1.8
	Bitlis Eren University	18	1.3
	Gümüşhane University	154	10.9
	Erciyes University	93	6.6
	Burdur Mehmet Akif Ersoy University	50	3.5
	Bartın University	67	4.8
	Muğla Sıtkı Koçman University	68	4.8

Table 1 shows that 36.1% (n=508) of the university students who participated in the study were female and 63.9% (n=901) were male, 23.9% (n=337) were 18-20 years old, 57.7% (n=813) were 21-23 years old, 13.3% (n=187) were 24-26 years old and 5.1% (n=72) were 27 and over. 7% (n=813) were aged 21-23 years, 13.3% (n=187) were aged 24-26 years, and 5.1% (n=72) were aged 27 and over. According to the departments they studied, 21.7% (n=306) were Physical Education and Sports Teaching, 36.9% (n=520) were Coaching Education, 33.5% (n=447) were from Sports Management and 7.9% (n=111) were from Recreation Education departments, and when the distribution according to the classes they were studying was analysed; 17.5% (n=246) were from 1st grade, 19.8% (n=279) were from 2nd grade, 27% (n=381) were from 3rd grade and 35.7% were from 3rd grade. Grade and 35.7% (n=503) 4th Grade students, and when the distribution according to monthly household income was analysed; 43.2% (n=609) 13000-18000 TL, 25.6% (n=361) 18001-23000 TL, 14.3% (n=201) 23001-28000 TL and 16.9% (n=238) were in the range of 28001-33000 TL, and when the distribution according to the use of startup products or services was analysed; 40.7% (n=574) used and 59.3% (n=835) do not use them, and finally, when the distribution according to the universities they have studied; 7% (n=99) Balıkesir University, 7% (n=98) Uşak University, 10% (n=141) Harran University, 7.8% (n=110) Mardin Artuklu University, 5.3% (n=75) Sakarya University of Applied Sciences, 9.2% (n=130) Munzur University, 9.8% (n=138) Fırat University, 10.1% (n=143) Bingöl University, 1.8% (n=25) Akdeniz

University, 1.3% (n=18) Bitlis Eren University, 10.9% (n=154) Gümüşhane University, 6. 6% (n=93) Erciyes University, 3.5% (n=50) Burdur Mehmet Akif Ersoy University, 4.8% (n=67) Bartın University and 4.8% (n=68) Muğla Sıtkı Koçman University students.

**Table 2.** Skewness and Kurtosis values of sub-dimensions and total means of the SSIS

Sub-dimensions	Skewnes			Kurtosis	
	n	$\sigma$	Ss	$\sigma$	Ss
Individual Interest	1409	-.437	.065	-.122	.130
Socialisation	1409	-.575	.065	.039	.130
Usage	1409	-.367	.065	-.324	.130
Fan Interest	1409	-.468	.065	-.335	.130
Benefit to the Sports Field	1409	-.629	.065	.058	.130
Career Plan	1409	-.463	.065	-.218	.130
Total	1409	-.544	.065	-.029	.130

When the results of the normality test in the sports startups interest scale and its sub-dimensions are analysed in Table 2, it is determined that the Skewness and Kurtosis values are between -1.5 and +1.5 in all sub-dimensions and scale average score. The values obtained reveal that the data exhibit a normal distribution. In this regard, the study used parametric tests, such as the independent samples t-test, one-way analysis of variance (ANOVA) and correlation analysis.

**Table 3.** T-Test Results of SSIS Subscales and Scale Mean Scores by Gender

Sub-dimensions	Groups	N	$\bar{x}$	ss	t-test		
					t	sd	p
Individual Interest	Female	508	3.41	.842	.490	1407	.625
	Male	901	3.38	.889			
Socialisation	Female	508	3.46	.828	-.101	1407	.920
	Male	901	3.47	.861			
Usage	Female	508	3.45	.837	1.283	1407	.200
	Male	901	3.39	.865			
Fan Interest	Female	508	3.46	.879	-.779	1075.397	.436
	Male	901	3.50	.944			
Benefit to the Sports Field	Female	508	3.64	.822	-.853	1115.382	.394
	Male	901	3.55	.868			
Career Plan	Female	508	3.64	.869	1.941	1139.500	.052
	Male	901	3.54	.959			
Total	Female	508	3.51	.696	.852	1124.798	.394
	Male	901	3.48	.756			

In Table 3, Independent Samples t test was used to determine the difference between the gender variable of the university students participating in the research and the sports startups interest scale. As a result of the analysis, no significant difference was found in the sub-dimensions of the sports startups interest scale and the total average of the scale ( $p>0.05$ ).

**Table 4.** ANOVA results of SSIS sub-dimensions and scale mean scores according to age

Sub-dimensions	Age	N	$\bar{x}$	Ss	Sum of Squares	KT	sd	KO	F	p
Individual Interest	18-20 <sup>1</sup>	337	3.34	.872	B. Groups	2.971	3	.990	1.302	.272
	21-23 <sup>2</sup>	813	3.39	.874						
	24-26 <sup>3</sup>	187	3.48	.852						
	27 and above <sup>4</sup>	72	3.48	.891						
Socialisation	18-20 <sup>1</sup>	337	3.49	.849	B. Groups	.632	3	.211	.291	.832
	21-23 <sup>2</sup>	813	3.46	.853						
	24-26 <sup>3</sup>	187	3.43	.845						
					W. Groups	1068.56	1405	.761		
					Total	1071.53	1408			



	27 and above <sup>4</sup>	72	3.52	.823	Total	1015.54	1408		
Usage	18-20 <sup>1</sup>	337	3.39	.802					
	21-23 <sup>2</sup>	813	3.40	.873	B. Groups	1.264	3	.421	
	24-26 <sup>3</sup>	187	3.49	.855	W. Groups	1030.18	1405	.733	.575
	27 and above <sup>4</sup>	72	3.43	.902	Total	1031.45	1408		.632
Fan Interest	18-20 <sup>1</sup>	337	3.45	.918					
	21-23 <sup>2</sup>	813	3.50	.936	B. Groups	.849	3	.283	
	24-26 <sup>3</sup>	187	3.50	.887	W. Groups	1195.65	1405	.851	.332
	27 and above <sup>4</sup>	72	3.42	.871	Total	1196.50	1408		.802
Benefit to the Sports Field	18-20 <sup>1</sup>	337	3.54	.831					
	21-23 <sup>2</sup>	813	3.58	.845	B. Groups	5.562	3	1.85	
	24-26 <sup>3</sup>	187	3.57	.943	W. Groups	1019.22	1405	.725	2.556
	27 and above <sup>4</sup>	72	3.85	.759	Total	1024.78	1408		.054
Career Plan	18-20 <sup>1</sup>	337	3.59	.872					
	21-23 <sup>2</sup>	813	3.55	.947	B. Groups	4.741	3	1.58	
	24-26 <sup>3</sup>	187	3.56	.988	W. Groups	1210.37	1405	.861	1.835
	27 and above <sup>4</sup>	72	3.82	.791	Total	1215.11	1408		.139
Total	18-20 <sup>1</sup>	337	3.47	.715					
	21-23 <sup>2</sup>	813	3.48	.740	B. Groups	.855	3	.285	
	24-26 <sup>3</sup>	187	3.50	.777	W. Groups	760.53	1405	.541	.527
	27 and above <sup>4</sup>	72	3.59	.661	Total	761.39	1408		.664

In Table 4, one-way anova test was used to determine the relationship between the age ranges of the university students participating in the research and their interest in sports startups. As a result of the analysis of the test, it was determined that there was no significant difference between the age of the students and their interest in sports startups ( $p>0.05$ ).

**Table 5.** ANOVA results of SSIS subscales and scale mean scores by department

Sub-dimensions	Department	N	$\bar{x}$	Ss	Sum of Squares	KT	sd	KO	F	p
Individual Interest	P.E. Sports Teaching	306	3.32	.854						
	Coaching Education	520	3.41	.866	B. Groups	2.464	3	.821		
	Sport Management	472	3.40	.883	W. Groups	1069.06	1405	.761	1.079	.357
	Recreation Education	111	3.48	.898	Total	1071.53	1408			
Socialisation	P.E. Sports Teaching	306	3.49	.787						
	Coaching Education	520	3.43	.854	B. Groups	1.555	3	.518		
	Sport Management	472	3.46	.872	W. Groups	1013.99	1405	.722	.718	.541
	Recreation Education	111	3.55	.891	Total	1015.54	1408			
Usage	P.E. Sports Teaching	306	3.35	.847						
	Coaching Education	520	3.43	.813	B. Groups	1.720	3	.573		
	Sport Management	472	3.43	.891	W. Groups	1029.73	1405	.733	.782	.504
	Recreation Education	111	3.43	.920	Total	1031.45	1408			
Fan Interest	P.E. Sports	306	3.40	.900						

	Teaching								1.141	.331
	Coaching Education	520	3.50	.890	B. Groups	2.907	3	.969		
	Sport Management	472	3.50	.945	W. Groups	1193.59	1405	.850		
	Recreation Education	111	3.55	1.01	Total	1196.50	1408			
<b>Benefit to the Sports Field</b>	P.E. Sports Teaching	306	3.51	.828						
	Coaching Education	520	3.56	.802	B. Groups	3.577	3	1.19	1.141	.178
	Sport Management	472	3.64	.883	W. Groups	1021.20	1405	.727		
	Recreation Education	111	3.63	1.00	Total	1024.78	1408			
<b>Career Plan</b>	P.E. Sports Teaching	306	3.54	.881						
	Coaching Education	520	3.56	.893	B. Groups	1.922	3	.641	.742	.527
	Sport Management	472	3.63	.975	W. Groups	1213.19	1405	.863		
	Recreation Education	111	3.56	1.01	Total	1215.11	1408			
<b>Total</b>	P.E. Sports Teaching	306	3.44	.700						
	Coaching Education	520	3.48	.706	B. Groups	1.348	3	.449	.830	.477
	Sport Management	472	3.51	.757	W. Groups	760.04	1405	.541		
	Recreation Education	111	3.54	.859	Total	761.39	1408			

In Table 5, one-way anova test was used to determine the relationship between the departments of university students participating in the research and their interest in sports startups. As a result of the analysis of the test, it is concluded that there is no significant difference between the departments in which the students study and their interest in sports startups ( $p>0.05$ ).

**Table 6.** ANOVA results of SSIS subscales and scale mean scores according to class

Sub-dimensions	Class	N	$\bar{x}$	Ss	Sum of Squares	KT	sd	KO	F	p	Games-Howell
<b>Individual Interest</b>	Class 1 <sup>1</sup>	246	3.37	.907							
	Class 2 <sup>2</sup>	279	3.30	.848	B. Groups	5.549	3	1.850	2.43	.063	-
	Class 3 <sup>3</sup>	381	3.37	.892	W. Groups	1065.98	1405	.759			
	Class 4 <sup>4</sup>	503	3.47	.848	Total	1071.53	1408				
<b>Socialisation</b>	Class 1 <sup>1</sup>	246	3.50	.919							
	Class 2 <sup>2</sup>	279	3.45	.799	B. Groups	2.195	3	.732	1.01	.385	-
	Class 3 <sup>3</sup>	381	3.41	.874	W. Groups	1013.35	1405	.721			
	Class 4 <sup>4</sup>	503	3.50	.820	Total	1015.54	1408				

<b>Usage</b>	Class <sub>1</sub> <sup>1</sup>	246	3.38	.880								
	Class <sub>2</sub> <sup>2</sup>	279	3.38	.796	B. Groups	1,239	3	.413				
	Class <sub>3</sub> <sup>3</sup>	381	3.41	.888	W. Groups	1030.21	1405	.733	.563	.639		-
	Class <sub>4</sub> <sup>4</sup>	503	3.45	.851	Total	1031.45	1408					
<b>Fan Interest</b>	Class <sub>1</sub> <sup>1</sup>	246	3.48	.989								
	Class <sub>2</sub> <sup>2</sup>	279	3.42	.828	B. Groups	5.465	3	1.822				
	Class <sub>3</sub> <sup>3</sup>	381	3.43	.937	W. Groups	1191.03	1405	.848	2.14	.092		-
	Class <sub>4</sub> <sup>4</sup>	503	3.56	.921	Total	1196.50	1408					
<b>Benefit to the Sports Field</b>	Class <sub>1</sub> <sup>1</sup>	246	3.56	.901								
	Class <sub>2</sub> <sup>2</sup>	279	3.44	.813	B. Groups	13.919	3	4.640				
	Class <sub>3</sub> <sup>3</sup>	381	3.54	.890	W. Groups	1010.86	1405	.719	6.44	.000*		4-2,3
	Class <sub>4</sub> <sup>4</sup>	503	3.70	.806	Total	1024.78	1408					
<b>Career Plan</b>	Class <sub>1</sub> <sup>1</sup>	246	3.59	.970								
	Class <sub>2</sub> <sup>2</sup>	279	3.51	.879	B. Groups	9.394	3	3.131				
	Class <sub>3</sub> <sup>3</sup>	381	3.49	.923	W. Groups	1205.71	1405	.858	3.64	.012*		4-3
	Class <sub>4</sub> <sup>4</sup>	503	3.68	.932	Total	1215.11	1408					
<b>Total</b>	Class <sub>1</sub> <sup>1</sup>	246	3.48	.786								
	Class <sub>2</sub> <sup>2</sup>	279	3.42	.707	B. Groups	4.992	3	1.664				
	Class <sub>3</sub> <sup>3</sup>	381	3.44	.761	W. Groups	756.40	1405	.538	3.09	.026*		4-2
	Class <sub>4</sub> <sup>4</sup>	503	3.56	.699	Total	761.39	1408					

According to the one-way ANOVA analysis performed to determine the difference between the classes of university students and the sports startups interest scale and its sub-dimensions in Table 6; it is seen that there is a significant difference between the averages of benefit to the field of sport, career plan and total scale ( $p < 0.05$ ). In order to determine the difference between the participants' interest in sports startups and the classes they studied, Games-Howell analysis was used in sample sizes where variances and sample numbers were not equal. According to this analysis; In the sub-dimension of benefit to the field of sport, it was determined that there was a statistically significant difference between university students studying in the classes 4 and university students studying in the 2nd and 3rd classes ( $p < 0.05$ ). In the career plan sub-dimension, it was determined that there was a statistically significant difference between university students studying in the class 4 and university students studying in the classes 3 ( $p < 0.05$ ). It was determined that there was a statistically significant difference between university students studying in the 4th grade and university students studying in the classes 2 in the total average scores of the sports startups interest scale ( $p < 0.05$ ).

**Table 7.** ANOVA results of SSIS subscales and scale mean scores according to monthly household income

Sub-dimensions	Monthly Household Income	N	$\bar{x}$	Ss	Sum of Squares	KT	sd	KO	F	p
Individual Interest	13000-18000 <sup>1</sup>	609	3.34	.885						
	18001-23000 <sup>2</sup>	361	3.41	.853	B. Groups	2.894	3	.965		
	23001-28000 <sup>3</sup>	201	3.44	.860	W. Groups	1068.63	1405	.761	1.268	.284
	28001-330000 <sup>4</sup>	238	3.44	.875	Total	1071.53	1408			
Socialisation	13000-18000 <sup>1</sup>	609	3.43	.888						
	18001-23000 <sup>2</sup>	361	3.47	.807	B. Groups	2.633	3	.878		
	23001-28000 <sup>3</sup>	201	3.56	.802	W. Groups	1012.91	1405	.721	1.217	.302
	28001-330000 <sup>4</sup>	238	3.45	.844	Total	1015.54	1408			
Usage	13000-18000 <sup>1</sup>	609	3.38	.877						
	18001-23000 <sup>2</sup>	361	3.47	.788	B. Groups	1.772	3	.591		
	23001-28000 <sup>3</sup>	201	3.43	.899	W. Groups	1029.67	1405	.733	.806	.491
	28001-330000 <sup>4</sup>	238	3.39	.860	Total	1031.45	1408			
Fan Interest	13000-18000 <sup>1</sup>	609	3.49	.950						
	18001-23000 <sup>2</sup>	361	3.46	.886	B. Groups	4.776	3	1.592		
	23001-28000 <sup>3</sup>	201	3.60	.886	W. Groups	1191.72	1405	.848	1.877	.132
	28001-330000 <sup>4</sup>	238	3.40	.925	Total	1196.50	1408			
Benefit to the Sports Field	13000-18000 <sup>1</sup>	609	3.54	.860						
	18001-23000 <sup>2</sup>	361	3.57	.833	B. Groups	4.570	3	1.523		
	23001-28000 <sup>3</sup>	201	3.71	.850	W. Groups	1020.21	1405	.726	2.098	.099
	28001-330000 <sup>4</sup>	238	3.61	.860	Total	1024.78	1408			
Career Plan	13000-18000 <sup>1</sup>	609	3.54	.931						
	18001-23000 <sup>2</sup>	361	3.57	.905	B. Groups	2.896	3	.965		
	23001-28000 <sup>3</sup>	201	3.68	.925	W. Groups	1212.21	1405	.863	1.119	.340
	28001-330000 <sup>4</sup>	238	3.59	.959	Total	1215.11	1408			
<b>Total</b>	13000-	609	3.46	.763					1.344	.258

	18000 <sup>1</sup>							
	18001-23000 <sup>2</sup>	361	3.49	.708	B. Groups	2.179	3	.726
	23001-28000 <sup>3</sup>	201	3.58	.717	W. Groups	759.21	1405	.540
	28001-330000 <sup>4</sup>	238	3.48	.716	Total	761.39	1408	

In Table 7, one-way anova test was used to determine the relationship between the monthly household income of the university students participating in the research and their interest in sports startups. As a result of the analysis of the test, it is concluded that there is no significant difference between the monthly household income of the students and their interest in sports startups ( $p>0.05$ ).

**Table 8.** T-test results of SSIS subscales and scale mean scores according to startup usage

Sub-dimensions	Groups	N	$\bar{x}$	ss	T-test		
					t	sd	p
Individual Interest	Yes	574	3.83	.707	17.634	1355.980	.000*
	No	835	3.09	.849			
Socialisation	Yes	574	3.79	.707	13.026	1365.868	.000*
	No	835	3.24	.866			
Usage	Yes	574	3.77	.744	13.969	1322.250	.000*
	No	835	3.17	.843			
Fan Interest	Yes	574	3.90	.759	15.582	1358.909	.000*
	No	835	3.20	.916			
Benefit to the Sports Field	Yes	574	3.89	.732	11.972	1348.583	.000*
	No	835	3.37	.867			
Career Plan	Yes	574	3.87	.836	10.319	1315.713	.000*
	No	835	3.38	.937			
Total	Yes	574	3.84	.605	16.794	1350.106	.000*
	No	835	3.25	.718			

In Table 8, t-test was used to determine the difference between the use of startup products or services by university students participating in the research and the scale of interest in sports startups. As a result of the analysis, it was determined that there was a significant difference in individual interest, socialization, usage, fan interest, benefit to the field of sports, career plan and scale total average ( $p>0.05$ ).

**Table 9.** ANOVA results of SSIS subscales and scale mean scores by university

Sub-dimensions	University	N	$\bar{x}$	Ss	Sum of Squares	KT	sd	KO	F	p	Games - Howell
Individual Interest	Balıkesir U. <sup>1</sup>	99	3.43	.837							
	Uşak U. <sup>2</sup>	98	3.50	.905							
	Harran U. <sup>3</sup>	141	3.59	.665							
	Artuklu U. <sup>4</sup>	110	3.33	.860							
	Sakarya Uyg. Bil. U. <sup>5</sup>	75	3.24	.858							
	Munzur U. <sup>6</sup>	130	3.33	.987							3-8,11
	Fırat U. <sup>7</sup>	138	3.49	.962							
	Bingöl U. <sup>8</sup>	143	3.16	.759							9-8
	Akdeniz U. <sup>9</sup>	25	3.80	.732							
	Bitlis Eren U. <sup>10</sup>	18	3.62	.703	B. Groups	31.848	14	2.275	3.05	.000*	
	Gümüşhane U. <sup>11</sup>	154	3.24	.874	W. Groups	1039.68	1394	.746			



	Erciyes U. <sup>12</sup>	93	3.49	.905	Total	1071.53	1408							
	Mehmet Akif Ersoy U. <sup>13</sup>	50	3.61	.909										
	Bartın U. <sup>14</sup>	67	3.24	1.01										
	Sıtkı Koçman U. <sup>15</sup>	68	3.44	.745										
Socialisation	Balıkesir U. <sup>1</sup>	99	3.39	.897	B. Groups	24.082	14	1.720	2.41	.002*	9-1,2,3,4,5,6,7,8,10,11,12,14,15			
	Uşak U. <sup>2</sup>	98	3.46	.817										
	Harran U. <sup>3</sup>	141	3.61	.719	W. Groups	991.466	1394	.711						
	Artuklu U. <sup>4</sup>	110	3.54	.806										
	Sakarya Bil. U. <sup>5</sup> Uyg.	75	3.35	.951	Total	1015.54	1408							
	Munzur U. <sup>6</sup>	130	3.37	.935										
	Fırat U. <sup>7</sup>	138	3.48	.939	1.34	.172	-							
	Bingöl U. <sup>8</sup>	143	3.42	.705										
	Akdeniz U. <sup>9</sup>	25	4.11	.595										
	Bitlis Eren U. <sup>10</sup>	18	3.45	.530										
	Gümüşhane U. <sup>11</sup>	154	3.36	.796										
	Erciyes U. <sup>12</sup>	93	3.50	.880										
	Mehmet Akif Ersoy U. <sup>13</sup>	50	3.73	.904										
	Bartın U. <sup>14</sup>	67	3.30	1.00										
	Sıtkı Koçman U. <sup>15</sup>	68	3.42	.819										
Usage	Balıkesir U. <sup>1</sup>	99	3.40	.820				B. Groups	13.768	14	.983	1.34	.172	-
	Uşak U. <sup>2</sup>	98	3.52	.858										
	Harran U. <sup>3</sup>	141	3.52	.686				W. Groups	1017.68	1394	.730			
	Artuklu U. <sup>4</sup>	110	3.36	.895										
	Sakarya Bil. U. <sup>5</sup> Uyg.	75	3.25	.886				Total	1031.45	1408				
	Munzur U. <sup>6</sup>	130	3.41	.917										
	Fırat U. <sup>7</sup>	138	3.56	.958	1.34	.172	-							
	Bingöl U. <sup>8</sup>	143	3.27	.745										
	Akdeniz U. <sup>9</sup>	25	3.54	.961										
	Bitlis Eren U. <sup>10</sup>	18	3.53	.668										
	Gümüşhane U. <sup>11</sup>	154	3.33	.778										
	Erciyes U. <sup>12</sup>	93	3.41	.904										
	Mehmet Akif Ersoy U. <sup>13</sup>	50	3.54	.928										
	Bartın U. <sup>14</sup>	67	3.32	1.05										
	Sıtkı Koçman U. <sup>15</sup>	68	3.43	.787										
Fan Interest	Balıkesir U. <sup>1</sup>	99	3.38	.946				B. Groups	28.824	14	2.059	2.45	.002*	3-5,8,11
	Uşak U. <sup>2</sup>	98	3.55	.926										
	Harran U. <sup>3</sup>	141	3.76	.822				W. Groups	1167.67	1394	.838			
	Artuklu U. <sup>4</sup>	110	3.52	.909										
	Sakarya Bil. U. <sup>5</sup> Uyg.	75	3.29	.932				Total	1196.50	1408				
	Munzur U. <sup>6</sup>	130	3.53	.963										
	Fırat U. <sup>7</sup>	138	3.55	.984	2.45	.002*	3-5,8,11							
	Bingöl U. <sup>8</sup>	143	3.28	.815										
	Akdeniz U. <sup>9</sup>	25	3.80	1.03										
	Bitlis Eren U. <sup>10</sup>	18	3.41	.826										
	Gümüşhane U. <sup>11</sup>	154	3.41	.781										
	Erciyes U. <sup>12</sup>	93	3.40	.937										
	Mehmet Akif Ersoy U. <sup>13</sup>	50	3.68	1.07										

	Bartın U. <sup>14</sup>	67	3.40	1.09							
	Sıtkı Koçman U. <sup>15</sup>	68	3.47	.894							
Benefit to the Sports Field	Balıkesir U. <sup>1</sup>	99	3.51	.886							
	Uşak U. <sup>2</sup>	98	3.82	.776							
	Harran U. <sup>3</sup>	141	3.76	.664							
	Artuklu U. <sup>4</sup>	110	3.62	.839							
	Sakarya Bil. U. <sup>5</sup> Uyg.	75	3.48	.871							
	Munzur U. <sup>6</sup>	130	3.53	.896							
	Fırat U. <sup>7</sup>	138	3.73	1.03							
	Bingöl U. <sup>8</sup>	143	3.41	.769							
	Akdeniz U. <sup>9</sup>	25	4.10	.721							
	Bitlis Eren U. <sup>10</sup>	18	3.55	.552	B. Groups	34.383	14	2.456	3.45	.000*	
	Gümüşhane U. <sup>11</sup>	154	3.43	.760	W. Groups	990.398	1394	.710			
	Erciyes U. <sup>12</sup>	93	3.37	.952	Total	1024.78	1408				
	Mehmet Akif Ersoy U. <sup>13</sup>	50	3.74	.760							
	Bartın U. <sup>14</sup>	67	3.54	.969							
		Sıtkı Koçman U. <sup>15</sup>	68	3.56	.831						
	Career Plan	Balıkesir U. <sup>1</sup>	99	3.55	.938						
Uşak U. <sup>2</sup>		98	3.74	.931							
Harran U. <sup>3</sup>		141	3.69	.922							
Artuklu U. <sup>4</sup>		110	3.76	.857							
Sakarya Bil. U. <sup>5</sup> Uyg.		75	3.33	1.03							
Munzur U. <sup>6</sup>		130	3.50	1.02							
Fırat U. <sup>7</sup>		138	3.66	.988							
Bingöl U. <sup>8</sup>		143	3.44	.770							
Akdeniz U. <sup>9</sup>		25	4.12	.922							
Bitlis Eren U. <sup>10</sup>		18	3.55	.626	B. Groups	30.291	14	2.164	2.54	.001*	
Gümüşhane U. <sup>11</sup>		154	3.46	.809	W. Groups	1184.82	1394	.850			
Erciyes U. <sup>12</sup>		93	3.46	.940	Total	1215.11	1408				
Mehmet Akif Ersoy U. <sup>13</sup>		50	3.73	.885							
Bartın U. <sup>14</sup>		67	3.45	1.09							
		Sıtkı Koçman U. <sup>15</sup>	68	3.61	.907						
Total		Balıkesir U. <sup>1</sup>	99	3.44	.755						
	Uşak U. <sup>2</sup>	98	3.60	.655							
	Harran U. <sup>3</sup>	141	3.66	.557							
	Artuklu U. <sup>4</sup>	110	3.53	.696							
	Sakarya Bil. U. <sup>5</sup> Uyg.	75	3.33	.723							
	Munzur U. <sup>6</sup>	130	3.45	.786							
	Fırat U. <sup>7</sup>	138	3.58	.893							
	Bingöl U. <sup>8</sup>	143	3.33	.641							
	Akdeniz U. <sup>9</sup>	25	3.92	.628							
	Bitlis Eren U. <sup>10</sup>	18	3.51	.552	B. Groups	21.917	14	1.565	2.95	.000*	
	Gümüşhane U. <sup>11</sup>	154	3.38	.637	W. Groups	739.475	1394	.530			
	Erciyes U. <sup>12</sup>	93	3.44	.826	Total	761.392	1408				
	Mehmet Akif Ersoy U. <sup>13</sup>	50	3.68	.771							
	Bartın U. <sup>14</sup>	67	3.38	.924							
		Sıtkı Koçman U. <sup>15</sup>	68	3.49	.710						

According to the one-way ANOVA analysis conducted to determine the difference between the universities where university students study and the sports startups interest scale and its sub-dimensions in Table 9; it is seen that there is a significant difference between the averages of individual interest, socialization fan interest, benefit to the sports field, career plan and total scale. In order to determine the difference between the participants' interest in sports startups and the universities they attended, Games-Howell analysis was used in sample sizes where variances and sample numbers were not equal. According to this analysis; In the individual interest sub-dimension, it was determined that there was a statistically significant difference between university students studying at Harran University and university students studying at Bingöl and Gümüşhane University. Another statistical difference was found to be significant between university students studying at Akdeniz University and university students studying at Bingöl University. In the socialization sub-dimension, it was determined that there was a statistically significant difference between university students studying at Akdeniz University and university students studying at Balıkesir, Uşak, Harran, Mardin Artuklu, Sakarya Uygulamalı Bilimler, Munzur, Fırat, Bingöl, Bitlis Eren, Gümüşhane, Erciyes, Bartın and Muğla Sıtkı Koçman University. In the sub-dimension of fan interest, it was determined that there was a statistically significant difference between the university students studying at Harran University and the university students studying at Sakarya University of Applied Sciences, Bingöl University and Gümüşhane University. In the sub-dimension of benefit to the field of sport, it was determined that there was a statistically significant difference between the university students studying at Uşak University and the university students studying at Bingöl University, Gümüşhane University and Erciyes University. In addition, it was determined that there was a statistically significant difference between university students studying at Harran University and university students studying at Bingöl University and Gümüşhane University. Another statistical difference was observed between university students studying at Akdeniz University and university students studying at Bingöl University, Gümüşhane University and Erciyes University. It was determined that there was a statistically significant difference in the total mean scores of the sports startups interest scale between the university students studying at Harran University and the university students studying at Sakarya University of Applied Sciences, Bingöl University and Gümüşhane University. In addition, it was determined that there was a statistically significant difference between university students studying at Akdeniz University and university students studying at Sakarya University of Applied Sciences, Bingöl University and Gümüşhane University ( $p < 0.05$ ).

**Table 10.** Pearson Correlation Analysis between SSIS sub-dimensions and scale mean score

Sub-dimensions		1	2	3	4	5	6	7
<b>Individual Interest<sup>1</sup></b>	r	1	.679**	.634**	.645**	.624**	.574**	.820**
	p		.000	.000	.000	.000	.000	.000
<b>Socialisation<sup>2</sup></b>	r		1	.629**	.641**	.677**	.609**	.852**
	p			.000	.000	.000	.000	.000
<b>Usage<sup>3</sup></b>	r			1	.640**	.646**	.566**	.810**
	p				.000	.000	.000	.000
<b>Fan Interest<sup>4</sup></b>	r				1	.661**	.576**	.846**
	p					.000	.000	.000
<b>Benefit to the Sports Field<sup>5</sup></b>	r					1	.717**	.870**
	p						.000	.000
<b>Career Plan<sup>6</sup></b>	r						1	.802**
	p							.000
<b>Total<sup>7</sup></b>	r							1
	p							

In Table 10, it is determined that there are strong and very strong positive correlations between the levels of the sports startups interest scale and the sub-dimensions of the scale of the university students participating in the study. When the literature is examined, it is seen that there are different correlation analysis classifications. Generally, the classification is interpreted as a weak relationship between .00 and .30, a moderate relationship between .31 and .49, a strong relationship between .50 and .69, and a very strong relationship between .70 and .100 (Tavşancıl, 2006).

According to the findings obtained as a result of the correlation analysis; there is a strong and positive relationship between the individual interest sub-dimension and the socialization sub-dimension, a strong and positive relationship between the use sub-dimension, and a strong and positive, strong and positive relationship with the sub-dimension of benefit to the sports field, strong and positive relationship with the sub-dimension of career plan, and very strong and positive relationship with the scale item averages. There is a strong and positive relationship between the socialization sub-dimension and the usage sub-dimension, a strong and positive relationship between the fan interest sub-dimension, and a strong and positive, strong and positive relationship with the career plan sub-dimension, and very strong and positive relationship with the scale item averages. It is concluded that there is a strong and positive relationship between the utilization sub-dimension and the fan interest sub-dimension, a strong and positive relationship between the benefit to the sport field sub-dimension, a strong and positive relationship between the career plan sub-dimension, and a very strong and positive relationship between the scale item averages. It is concluded that there is a very strong and positive relationship between the sub-dimension of benefit to the field of sport and the sub-dimension of career plan and a very strong and positive relationship between the scale item averages. It is concluded that there is a very strong and positive relationship between the career plan sub-dimension and the scale item averages.

## Discussion and Conclusion

In the study, the interest of university students studying sports at state universities in Turkey towards sports startups was determined by quantitative research method. Percentage and frequency information about gender, age, university, department, department, class, monthly household income and startup product or service usage variables obtained from the university students who participated in the research through the personal information form were given. In addition, in the study, sports startup interests were examined in seven dimensions: individual interest, socialization, usage, fan interest, benefit to the field of sports, career plan and scale total average scores.

When the normality test results of the sports startups interest scale and its sub-dimensions are examined; Skewness and Kurtosis values are found in the individual interest sub-dimension ( $S=-.437$ ;  $P=-.122$ ), socialization sub-dimension ( $S=-.575$ ;  $P=.039$ ), usage sub-dimension ( $S=-.367$ ;  $P=-.324$ ), fan interest sub-dimension ( $S=-.468$ ;  $P=-.335$ ), sports field benefit sub-dimension ( $S=-.629$ ;  $P=.058$ ), career plan sub-dimension ( $S=-.463$ ;  $P=-.218$ ) and total averages ( $S=-.544$ ;  $P=-.029$ ) (Table 2). When the literature is examined, it is seen that there are different opinions about normality analysis. When these opinions are examined; Büyüköztürk, Çokluk and Köklü (2011) state that it is sufficient to have skewness and kurtosis values between -1 and +1, Tabachnick and Fidell (2007) state that it is sufficient to have skewness and kurtosis values between -1.5 and +1.5 and George and Mallery (2010) state that it is sufficient to have skewness and kurtosis values between -2 and +2. As a result of the findings obtained, as a result of the answers given by the university students receiving sports education; when the normality test results of the sports startups interest scale and its

sub-dimensions are examined, it is concluded that Skewness and Kurtosis values provide all the above value ranges in all sub-dimensions and scale average score.

The t-test was used to determine the difference between the gender variable of the university students participating in the study and the sports startups interest scale. As a result of the analysis, no significant difference was found in the sub-dimensions of the sports startups interest scale and the total average of the scale (Table 3). When the literature is examined; it is seen that different findings have been obtained between entrepreneurship and gender of university students. In their studies, some researchers have reached a conclusion in favor of men between entrepreneurship and gender (Cansız, 2007; Şeşen & Basım, 2012; Köksal & Penez, 2015; Kristiansen & Indarti, 2014; Kılıç, Keklik, & Çalış, 2012). However, in many studies, it is concluded that there is no significant difference between gender and entrepreneurship characteristics (Uygun & Er, 2016; Eren, 2016; Karataş, 2018; Yıldız, 2020). In this respect, it is in parallel with our research.

One-way anova test was used to determine the relationship between the age ranges of the university students participating in the research and their interest in sports startups. As a result of the analysis of the test, it is concluded that there is no significant difference between the age of the students and their interest in sports startups (Table 4). Although there is no significant difference, when the averages of the students in terms of age ranges are analyzed; it is seen that the averages increase as the age range increases. When the literature is examined; Şeşen and Basım (2012) conducted a study titled “The Effect of Demographic Factors and Personality on Entrepreneurial Intention: A Research on University Students Studying in the Field of Sports Sciences” by Şeşen and Basım, 2012; ‘Investigation of University Students’ Conscious Awareness and Entrepreneurship Levels” by Cengiz, Serdar and Donuk, 2016; “Investigation of Entrepreneurship Levels of Inonu University Faculty of Sports Sciences Students” by Yıldız, 2020; Çermik and Şahin, 2015 in their study titled “Investigation of Social Entrepreneurship Characteristics of Social Studies Teacher Candidates in Terms of Various Variables” and Korkmaz, 2012 in their study titled “A Research to Determine the Entrepreneurship Tendencies of University Students: The Case of Bülent Ecevit University”, which was conducted by Korkmaz (145), is in parallel with our study.

One-way anova test was used to determine the relationship between the departments of the university students participating in the research and their interest in sports startups. As a result of the analysis of the test, it is concluded that there is no significant difference between the departments in which the students study and their interest in sports startups (Table 5). When the literature is examined, it is seen that there are statistically significant results in terms of the department in the studies conducted. In the research conducted by Karataş, 2018, it was concluded that the entrepreneurship levels of the students of the sports management department were high; in the research conducted by Cengiz, Serdar, and Donuk, 2016, it was concluded that the entrepreneurship levels of the students studying in the recreation department were high; in the research conducted by Nas and Temel, 2018, it was concluded that the students of Physical Education and Sports Teaching and Sports Management II departments were higher than the students studying in the Sports Management I department, and in this respect, it differs from our research. Yıldız, 2020 in his study titled “Investigation of Entrepreneurship Levels of Inonu University Sports Sciences Faculty Students”; Pan and Akay, 2015 in their study titled “Investigation of Entrepreneurship Levels of Faculty of Education Students in Terms of Various Variables” and Mülhim, 2019 in their study titled “Investigation of Entrepreneurship Characteristics and Individual Innovation Levels of Physical Education and Sports School Students: The Case of Bartın University”, no



significant difference was found between the departments in which the students studied and entrepreneurship. In this respect, it is seen that it is in parallel with our research.

According to the one-way ANOVA analysis conducted to determine the difference between the classes of university students participating in the study and the sports startups interest scale and its sub-dimensions; it is seen that there is a significant difference between the averages of benefit to the field of sports, career plan and total scale. Games-Howell analysis was used to determine the difference between the participants' interest in sports startups and the classes they were studying (Table 6). Accordingly, it was determined that there was a statistically significant difference between university students in the 4th grade and those in the 2nd and 3rd grades in the sub-dimension of benefit to the sports field. According to the findings obtained in the sub-dimension of benefit to the field of sports, it is concluded that the 4th grade students' interest in the benefit of sports startups to the field of sports is higher than the 2nd and 3rd grade students. In the career plan sub-dimension, it was determined that there was a statistically significant difference between university students studying in the 4th grade and university students in the 3rd grade. According to the findings obtained in the career plan sub-dimension; it is concluded that 4th grade students' interest in career plans is higher than 2nd grade students. It was determined that there was a statistically significant difference between university students studying in the 4th grade and university students studying in the 3rd grade in the total average scores of the sports startups interest scale. According to the findings obtained in the total mean scores of the sports startups interest scale; it is concluded that 4th grade students' interest in sports startups is higher than 3rd grade students. When the literature is examined; Nas and Temel, 2018 in the study titled "Entrepreneurship Levels of Physical Education and Sports School Students"; Karataş, 2018 in the study titled "Investigation of the Effects of Personality Traits of Physical Education and Sports School Students on Entrepreneurship Tendencies: The Case of Bartın University" by Adatepe, 2018; 'Investigation of Entrepreneurial Characteristics and Reflective Thinking Levels of Prospective Teachers Studying at the School of Physical Education and Sports' by Adatepe, 2018, significant differences were obtained between the classes in which the students studied and entrepreneurship. It is seen that the interest in entrepreneurship increases as the grade increases. It is thought that this situation is also influenced by the fact that the students who come to the last grades have mastered their field, developed a career plan and entrepreneurship or career courses. In this respect, our research aligns with this finding. According to the Eta Squared ( $N^2$ ) calculation performed to determine the effect sizes in ANOVA analyses, it was determined that the differences were small (0.01), medium (0.06), and large (0.14) (Büyüköztürk, 2011). The eta-squared calculation concluded that there was a small level of differentiation in class-based sports field benefit scores ( $n^2=0.013$ ), career plan scores ( $n^2=0.007$ ), and total average scores ( $n^2=0.006$ ).

A one-way anova test was used to determine the relationship between the monthly household income of the university students participating in the research and their interest in sports startups. As a result of the analysis of the test, it is concluded that there is no significant difference between students' monthly household income and their interest in sports startups (Table 7). When the literature is examined; Nas and Temel, 2018 in their study titled "Entrepreneurship Levels of Physical Education and Sports School Students"; Armut and Kılınç, 2018 in their study titled "Investigation of Entrepreneurship Skills of 4th Grade Social Sciences Teacher Candidates in Terms of Various Variables"; Mülhim, 2019 in their study titled "Investigation of Entrepreneurship Characteristics and Individual Innovation Levels of Physical Education and Sports School Students: The Case of Bartın University", concludes that there is no significant difference between entrepreneurship and income level. In this

respect, it supports our research. However, it is also seen in the literature that there is an opinion that the level of entrepreneurship increases as income increases (Örücü, Kılıç & Yılmaz, 2007; Uluyol, 2013).

The t-test was used to determine the difference between the use of startup products or services by university students participating in the study and the sports startups interest scale. As a result of the analysis, it was determined that there was a significant difference in individual interest, socialization, usage, fan interest, benefit to the field of sports, career plan and scale total average (Table 8). According to the findings obtained as a result of the analysis; it is concluded that students who use startup products or services in the individual interest sub-dimension have higher individual interest in sports startups than students who do not use them. In the socialization sub-dimension, it is concluded that students who use startup products or services have higher socialization interest towards sports startups than non-users. In the usage sub-dimension, it is concluded that students who use startup products or services have higher usage interest towards sports startups than non-users. In the fan interest sub-dimension, it is concluded that students who use startup products or services have higher fan interest in sports startups than non-users. In the sub-dimension of benefit to the sports field, it is concluded that students who use startup products or services have a higher interest in the benefit of sports startups to the sports field than students who do not use them. In the career plan sub-dimension, it is concluded that students who use startup products or services have higher career plan interest in sports startups than non-users. In the total averages of the scale, it is concluded that students who use startup products or services have higher interest in sports startups than students who do not use them. As a result of the results obtained, it is expected that the interest averages of the students who use the products and services offered by sports startups are higher than those who do not use them. It is concluded that the results of the research confirm the information in the literature in parallel with the concept of interest. According to the Cohen's d calculation performed to determine the effect sizes, it was found that the differences were small at 0.20, medium at 0.50, and large at 0.80 (Cohen, 1988). In terms of sports startup usage, the results of the calculation showed the following: individual interest scores showed a large difference ( $d=0.947$ ); socialisation scores showed a moderate difference ( $d=0.695$ ); usage scores showed a moderate difference ( $d=0.754$ ); fan interest scores showed a large difference ( $d=0.832$ ); sports field benefit scores showed a moderate difference ( $d=0.648$ ); career plan scores showed a large difference ( $d=0.551$ ); and scale total average scores showed a large difference ( $d=0.890$ ).

According to the one-way ANOVA analysis conducted to determine the difference between the universities where the university students participated in the research and the sports startups interest scale and its sub-dimensions; it is seen that there is a significant difference between the averages of individual interest, socialization fan interest, benefit to the field of sports, career plan and total scale ( $p<0.05$ ). Games-Howell analysis was used to determine the difference between the participants' interest in sports startups and the universities they attended (Table 9). Accordingly, it was determined that there was a statistically significant difference between university students studying at Harran University and university students studying at Bingöl University and Gümüşhane University in the individual interest sub-dimension. Another statistically significant difference was found between university students studying at Akdeniz University and university students studying at Bingöl University. According to the findings obtained in the individual interest sub-dimension; it is concluded that Harran University students' individual interest in sports startups is higher than Bingöl University and Gümüşhane University students. Again, in the individual interest sub-dimension, it was concluded that the individual interest of Akdeniz University students

towards sports startups was higher than Bingöl University students. In the study titled “Comparative Analysis of Entrepreneurship and Demographic Data on a Provincial Basis in Turkey through Geographical Information System” conducted by Beyhan et al., 2021, it is seen that Şanlıurfa is at a higher level than Bingöl and Gümüşhane, and Antalya is also higher than Bingöl in terms of the number of startups per university student. From this point of view, it is thought that students' interest in this aspect may be low due to the low number of initiatives and the small population of university students.

In the socialization sub-dimension, it was determined that there was a statistically significant difference between university students studying at Akdeniz University and university students studying at Balıkesir University, Uşak University, Harran University, Mardin Artuklu University, Sakarya University of Applied Sciences, Munzur University, Fırat University, Bingöl University, Bitlis Eren University, Gümüşhane University, Erciyes University, Bartın University and Muğla Sıtkı Koçman University. According to the findings obtained in the socialization sub-dimension; it is concluded that the socialization interest of Akdeniz University students towards sports startups is higher than Balıkesir University, Uşak University, Harran University, Mardin Artuklu University, Sakarya University of Applied Sciences, Munzur University, Fırat University, Bingöl University, Bitlis Eren University, Gümüşhane University, Erciyes University, Bartın University and Muğla Sıtkı Koçman University students. In the study titled “Comparative Analysis of Entrepreneurship and Demographic Data on the Basis of Provinces in Turkey through Geographical Information System” conducted by Beyhan et al., 2021, it is thought that the number of enterprises per university student is due to the fact that Antalya province is above the average of Turkey. In addition, since Antalya province is more cosmopolitan than the provinces where other universities are located, it is thought that individuals use sports startups in terms of socialization interests.

In the sub-dimension of utilization, it is seen that there is no significant difference between the universities where the university students who participated in the research studied.

In the sub-dimension of fan interest, it was determined that there was a statistically significant difference between the university students studying at Harran University and the university students studying at Sakarya University of Applied Sciences, Bingöl University and Gümüşhane University. According to the findings obtained in the fan interest sub-dimension; it is concluded that the fan interest of Harran University students towards sports startups is higher than Sakarya University of Applied Sciences, Bingöl University and Gümüşhane University students. According to the result obtained, it is thought that Harran University students have a high interest in following their favorite sports branches.

It was determined that there was a statistically significant difference between university students at Uşak University and university students studying at Bingöl University, Gümüşhane University and Erciyes University in the sub-dimension of benefit to the field of sport. In addition, it was determined that there was a statistically significant difference between university students at Harran University and university students studying at Bingöl University and Gümüşhane University. Another statistical difference was observed between university students at Akdeniz University and university students studying at Bingöl University, Gümüşhane University and Erciyes University. According to the findings obtained in the sub-dimension of the benefit of the sports field; it is concluded that Uşak University students' interest in the benefit of sports startups to the sports field is higher than Bingöl University, Gümüşhane University and Erciyes University students. In addition, it is concluded that Harran University students' interest in the benefits of sports startups to the

sports field is higher than Bingöl University and Gümüşhane University students. In another significant difference, it is concluded that Akdeniz University students' interest in the benefits of sports startups to the sports field is higher than Bingöl University, Gümüşhane University and Erciyes University students. Considering the results obtained, according to the research titled "Comparative Analysis of Entrepreneurship and Demographic Data on the Basis of Provincial Entrepreneurship in Turkey through Geographical Information System" conducted by Beyhan et al., 2021, it is thought that Uşak province is higher than Bingöl and Gümüşhane, Şanlıurfa province is higher than Bingöl and Gümüşhane, and Antalya province is higher than Bingöl, Gümüşhane and Kayseri provinces according to the number of enterprises per university student. In addition to the high number of enterprises per university student, it is thought that the universities located in the west in terms of environmental, social and economic terms contribute to the development of the benefits of the field of sports both in practice and conceptually due to their high interest in terms of entrepreneurship. In terms of entrepreneurship, there is a high level of belief that people who grow up in different regions may have different perspectives and thoughts in some aspects. This idea is also similar to the research.

It was determined that there was a statistically significant difference between university students studying at Harran University and university students studying at Sakarya University of Applied Sciences, Bingöl University and Gümüşhane University in the total average scores of the Sports Startups Interest Scale. In addition, it was determined that there was a statistically significant difference between university students studying at Akdeniz University and university students studying at Sakarya University of Applied Sciences, Bingöl University and Gümüşhane University. According to the findings obtained from the total mean scores of the sports startups interest scale; it is concluded that Harran University students' interest in sports startups is higher than Sakarya University of Applied Sciences, Bingöl University and Gümüşhane University students. In another significance, it is concluded that Akdeniz University students' interest in sports startups is higher than Sakarya University of Applied Sciences, Bingöl University and Gümüşhane University students. When the sub-dimensions and total mean scores of the sports startups interest scale are examined in general, it is concluded that Harran University and Akdeniz University students have a high interest in sports startups. This situation is thought to be due to the socio-economic level, population density, etc. of Şanlıurfa and Antalya provinces.

As a result of the chi-squared test performed to determine the size of the effect, there were small differences in the following: individual interest scores ( $n^2=0.02$ ), socialisation scores ( $n^2=0.02$ ), usage scores ( $n^2=0.01$ ), a small difference in fan interest scores ( $n^2=0.02$ ), a small difference in benefit scores for the sports field ( $n^2=0.03$ ), a small difference in career plan scores ( $n^2=0.02$ ), and a small difference in total average scores ( $n^2=0.02$ ).

It was determined that there were strong and very strong positive correlations between the scale mean scores obtained as a result of the answers given by the university students participating in the research to the sports startups interest scale and the scale sub-dimensions (Table 10). When the literature is examined, it is seen that there are different correlation analysis classifications. Generally, the classification is interpreted as a weak relationship between .00 and .30, a moderate relationship between .31 and .49, a strong relationship between .50 and .69, and a very strong relationship between .70 and .100 (Tavşancıl, 2006). According to the findings obtained as a result of the correlation analysis; there is a strong and positive ( $r=.679$ ;  $p<.001$ ) relationship between the individual interest sub-dimension and the socialization sub-dimension, a strong and positive ( $r=.634$ ;  $p<.001$ ) relationship between the use sub-dimension, and a strong and positive ( $r=.645$ ;  $p<.001$ ), strong and positive ( $r=.624$ ;



$p < .001$ ) relationship with the sub-dimension of benefit to the sports field, strong and positive ( $r = .574$ ;  $p < .001$ ) relationship with the sub-dimension of career plan, and very strong and positive ( $r = .820$ ;  $p < .001$ ) relationship with the scale item averages. There is a strong and positive ( $r = .629$ ;  $p < .001$ ) relationship between the socialization sub-dimension and the usage sub-dimension, a strong and positive ( $r = .641$ ;  $p < .001$ ) relationship between the fan interest sub-dimension, and a strong and positive ( $r = .677$ ;  $p < .001$ ), strong and positive ( $r = .609$ ;  $p < .001$ ) relationship with the career plan sub-dimension, and very strong and positive ( $r = .852$ ;  $p < .001$ ) relationship with the scale item averages. It is concluded that there is a strong and positive ( $r = .640$ ;  $p < .001$ ) relationship between the utilization sub-dimension and the fan interest sub-dimension, a strong and positive ( $r = .646$ ;  $p < .001$ ) relationship between the benefit to the sport field sub-dimension, a strong and positive ( $r = .566$ ;  $p < .001$ ) relationship between the career plan sub-dimension, and a very strong and positive ( $r = .810$ ;  $p < .001$ ) relationship between the scale item averages. It is concluded that there is a very strong and positive ( $r = .717$ ;  $p < .001$ ) relationship between the sub-dimension of benefit to the field of sport and the sub-dimension of career plan and a very strong and positive ( $r = .870$ ;  $p < .001$ ) relationship between the scale item averages. It is concluded that there is a very strong and positive ( $r = .802$ ;  $p < .001$ ) relationship between the career plan sub-dimension and the scale item averages. As a result of the findings obtained; it can be concluded that socialization, usage, fan interest, benefit to the sports field, career plan and general sports startup interest will increase positively as a result of increasing individual interest scores. As a result of the increase in socialization scores, it can be concluded that usage, fan interest, benefit to the sports field, career plan and general sports startup interest will increase positively. As a result of the increase in usage scores, it can be concluded that fan interest, benefit to the sports field, career plan and general sports startup interest will increase positively. As a result of the increase in fan interest scores, it can be concluded that the benefit to the sports field, career plan and general sports startup interest will increase positively. As a result of the increase in career plan scores, it can be concluded that general sports startup interest will increase positively. As a result, while a significant difference was found between the Sports Startups Interest Scale and the university they studied, the class they studied and the status of using startup products and services, no significant difference was found between gender, age, department and monthly household income variables. Taking meaningful differences into account, it can be said that the opportunities available in the province in which students attend university, as well as in neighbouring provinces, create differences in their entrepreneurial perspectives. Furthermore, as students progress through their studies, their professional knowledge increases, making them more effective in relating to the field of entrepreneurship, which in turn influences their career plans. It has been concluded that university students who use the products and services offered by sports start-ups are more interested than those who do not use them. Considering the findings obtained in the research, the recommendations that are considered important are as follows; Project-oriented education should be provided by adding entrepreneurship or startup-related courses to undergraduate education curricula. In addition to the courses, training and seminars should be provided to students on financial support and finding capital in order to enable students to learn by living by developing students both in theory and in practice about startups. Universities should support students in startups through collaborations (sector stakeholders, sports startups, technocities, incubation centers, startup initiatives, startup acceleration programs, etc.). The research will contribute to the field by testing these in different sample groups and using different variables.

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