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THE RELATIONSHIP BETWEEN INDIVIDUAL INNOVATION, SOCIAL ENTREPRENEURSHIP PERCEPTIONS AND SUSTAINABLE DEVELOPMENT AWARENESS OF UNIVERSITY STUDENTS AND INVESTIGATING IT ACCORDING TO SOME VARIABLES*

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ABSTRACT

The purpose of this study is to ascertain how university students' views on social entrepreneurship and individual inventiveness relate to their knowledge of sustainable development, and to investigate this relationship based on a number of demographic variables. The universe of the study consists of university students studying at Bingöl University in the 2019-2020 academic year. According to the data obtained from Bingöl University Student Affairs, 15,000 students are studying in the 2019-2020 academic year. Considering the number of students studying, since it is not possible to reach all students, a sample was taken in the study. A simple random method, one of the probability-based sampling methods, was used in the study. In the calculation based on Cochran's (1977) method, it was calculated that a sample of 637 people would be sufficient for a 99% confidence level and a 5% acceptable error level in a universe of 15,781 people. Considering missing data, random answers and extreme values, it was decided to collect data from 1,000 students. For some reasons, the data collected from a total of 758 students was analyzed. IBM SPSS 22.0 software was used to analyze the data and frequency, percentage, arithmetic mean, standard deviation, and Cronbach alpha was calculations were made. As a result of the research, it was determined that university students' perceptions of individual innovativeness were at a high level in the individual innovativeness variable and risk-taking, intellectual leadership and openness to experience sub-dimensions, except for the resistance to change sub-dimension. Their perceptions of social entrepreneurship were also at a high level. Moreover, It was determined that the sustainable development awareness of university students was at a very high level.

Keywords: Individual innovation, Social entrepreneurship, Sustainable development, University students.

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INTRODUCTION

Nowadays, in order to stay up with the rapidly evolving times, people and societies must constantly improve themselves due to changes and advancements in a variety of areas pertaining to people and society. By being receptive to new ideas, individuals and communities may improve themselves. By creating concepts and methods that are either nonexistent or require modification to be appropriate for our time, people will be able to engage in innovative behaviors. Individual innovativeness is defined as the immediate acceptance of an innovation by individuals, the development and implementation of this innovation (Yuan & Woodman, 2010). In another definition, individual innovativeness is defined as the individual's willingly assimilating innovation, using innovation and benefiting from innovation (Kılıçer & Odabaşı, 2010). The fact that university students are equipped with individual innovativeness characteristics before graduation will enable them to produce new ideas when they enter the business life and will provide advantages to the individual, the organisation they work for and the society.

Situations such as the increase in the world population every year, epidemics affecting the whole world such as Covid-19, disasters, increasing economic inequality among individuals, and the fact that existing job opportunities not being enough for more people every year are problems that affect all societies (Damnet et al., 2023; Marangoz, 2016). Both in the public and private sectors, efforts are being made to eliminate or minimise these problems. While governments try to alleviate these problems through practices such as paying unemployment benefits, private sector organisations also provide financial assistance to disadvantaged groups in society. However, these practices mean preferring to give fish to people rather than teaching them how to fish. This method emphasises consumption rather than production. Social entrepreneurship, on the other hand, aims neither to give fish nor to teach fishing. The main goal in social entrepreneurship is to create new business lines by ensuring that the fishing sector is completely changed (Kargın et al., 2018). Social entrepreneurship practices aim to enable disadvantaged individuals to earn income by contributing to production. Ensuring that university students graduate with social entrepreneurship skills will be beneficial in terms of reaching individuals who are disadvantaged in different segments of society and struggling with their problems and improving their social and economic situation.

The continuous increase in the world population raises not only the problem of insufficient employment opportunities but also the problem of rapid consumption of natural resources. Realising this problem, countries started to consider the protection of the environment along with economic development. The ability to meet the needs of current generations without compromising the ability of future generations to meet their own needs was the initial definition of sustainable development given in a 1987 report by the World Commission on Environment and Development (WCED) (Thirlwall, 2014). In the definition of sustainable development used in many fields by the United Nations Environment Programme (UNEP), it is stated that the activities carried out to improve the living standards of individuals are organised and implemented in a way that protects the environment, does not harm natural life and systems, and does not worsen the living standards of future generations (UNEP, 2020). Raising student understanding of sustainable development is one of the seven sub-

goals under the "Quality Education" sub-goal, which is one of the 17 SDGs (sustainable development goals) planned to be achieved by 2030. Given this, it is crucial that college students learn more about sustainable development and make plans for the future that will preserve environment and leave future generations with a habitable world.

When the literature is examined, there is no research that addresses the relationship between university students' perceptions of individual innovativeness and social entrepreneurship and their awareness of sustainable development in the same study. From this perspective, the present study is expected to contribute to the literature. In addition, it is thought that by making recommendations to the relevant institutions with the results to be reached, the individual innovation and social entrepreneurship skills of university students will be improved and sustainable development awareness levels will be increased. This study is also thought to be important because the outputs that can advise educational institutions, local and central government can be obtained in order to increase the individual innovation and social entrepreneurship perception levels of university students and to increase their awareness of sustainable development before graduation.

The general purpose of this research is to examine the relationship between university students' individual innovation and social entrepreneurship perceptions and their awareness of sustainable development. In line with this general purpose, the following questions were sought:

1. What is the level of individual innovation perceptions of university students?

2. Is there a significant difference between university students' individual innovation levels, demographic characteristics, whether they have received training on individual innovation, social entrepreneurship and/or sustainable development, and whether they think they have sufficient knowledge on individual innovation, social entrepreneurship and sustainable development?

3. What is the level of university students' social entrepreneurship perceptions?

4. Is there a significant difference between university students' social entrepreneurship levels, demographic characteristics, whether they have received training on individual innovation, social entrepreneurship and/or sustainable development, and whether they think they have sufficient knowledge on individual innovation, social entrepreneurship and sustainable development?

5. What is the level of sustainable development awareness of university students?

6. Is there a significant difference between university students' awareness of sustainable development and their demographic characteristics, whether they have received training on individual innovation, social entrepreneurship and/or sustainable development, and whether they think they have sufficient knowledge on individual innovation, social entrepreneurship and sustainable development? 7. Do university students' individual innovation levels predict their awareness of social entrepreneurship and sustainable development?

METHOD

This section of the study presents the research model, sample, data collection instruments, and statistical techniques employed in the data analysis.

Research Model

The present study employs a survey model derived from quantitative research methods to examine university students' perceptions of individual innovativeness, social entrepreneurship, and sustainable development. The survey model, as outlined by Karasar (2005), is regarded as one of the research models that describe an existing situation.

Research Group

In order to ensure the external validity of the research, namely to guarantee that the results can be generalised to the universe, the simple random sampling method, one of the probability-based sampling methods, was used. In simple random sampling, individuals are assigned an equal chance of inclusion in the sample. The probability of selection for any individual is unaffected by whether they are included or excluded from the sample (Büyüköztürk et al., 2017). A questionnaire comprising the scales and demographic information of the students was devised by the researcher and distributed to the students. At the conclusion of a three-week period, a total of 789 (78.9%) questionnaires were received. Eleven questionnaires that were incompletely and carelessly completed, and 20 questionnaires due to extreme values, were excluded from the evaluation, leaving data collected from 758 students for analysis.

Table 1. Demographic Information of the Participants

Variable	Group	*f*	*%*
Gender	Female	484	63.9
	Male	274	36.1
Yaş	Age 20 years and under	27	3.6
	21-24 years	602	11.9
	25-29 years	90	5.1
	30 years end over	39	16.2
Unit of Study	Faculty	173	22.8
	College	585	77.2
Grade point average	2.00 and below	60	7.9
	2.01-3.00	269	35.5
	3.01-3.50	339	44.7
	3.51-4.00	90	11.9
Mother's education status	Illiterate	367	48.4
	Primary School	271	35.7
	Secondary School	55	7.3
	High School	35	4.6
	University	30	4.0
Father's education status	Illiterate	100	13.2
	Primary School	339	44.7
	Secondary School	139	18.3
	High School	103	13.6

	University	77	10.2
Family income status	2000 and below	358	47.2
	2001-3000	201	26.5
	3001-4000	120	15.8
	4001and above	79	10.5
Mother's profession	Housewife	539	71.1
	Public employee	60	7.9
	Private sector employee	78	10.3
	Retired	81	10.7
Father's profession	Not working	204	26.9
	Public employee	107	14.1
	Private sector employee	66	8.7
	Freelance	184	24.3
	Retired	197	26.0
Students receive SG, SK and BY training	Educated	93	12.3
	Not Educated	665	87.7
Students should have knowledge about SG, SK and BY	Sufficient knowledge	132	17.5
	Not sufficient knowledge	626	82.5

Data Collection Tools

The data collection tool used in the current study consists of four parts: personal information form, individual innovativeness scale, social entrepreneurship characteristics scale and sustainable development awareness scale.

Personal Information Form (PIF)

In the initial phase of the data collection instrument employed in the study, a personal information form comprising seven questions (gender, age, unit of study, grade point average, mother's education level, father's education level, family income status, mother's occupation, father's occupation, student's social entrepreneurship, sustainable development and and individual inventiveness training, student's knowledge about student's social entrepreneurship, sustainable development and and individual inventiveness) was utilised. This form was developed by the researcher.

Individual Innovativeness Scale (IIS)

The Individual Innovativeness Scale (IIS), initially developed by Hurt, Joseph and Cook (1977) and subsequently adapted into Turkish by Kılıçer and Odabaşı (2010), was employed to assess the individual innovativeness perceptions of university students. The scale comprises a total of 20 items, distributed across four dimensions: risk taking (2 items), resistance to change (8 items), thought leadership (5 items) and openness to experience (5 items). The scale is a five-point Likert type. Upon examination of Cronbach's Alpha coefficients, it becomes evident that the sub-dimensions of risk taking (α=.758), resistance to change (α=.800), thought leadership (α=.775) and openness to experience (α=.751) exhibit reliable values. These values are consistent with those reported in numerous studies utilising the same scale (Aksu, 2022; Tarhan, 2018; Filiz, O., 2018).

Social Entrepreneurship Characteristics Scale (SECS)

The Social Entrepreneurship Characteristics Scale, developed by Konaklı and Göğüş (2013), was employed to assess the social entrepreneurship perceptions of university students. The scale comprises three dimensions: personal creativity (5 items), self-confidence (8 items) and risk-taking (7 items), resulting in a total of 20 items. This is a five-point Likert-type scale. The Cronbach's Alpha values obtained from the reliability analyses demonstrated satisfactory reliability coefficients for the dimensions of personal creativity (α=.750), self-confidence (α=.805) and risk taking (α=.796).

Attitude towards Sustainable Development Scale

The Attitude Towards Sustainable Development Scale (ATSD), developed by Baisutti and Frate (2017) and subsequently adapted into Turkish by Demirel and Sungur (2018), was employed to assess university students' awareness of sustainable development. The scale consists of environment, economy, education and society sub-dimensions, each consisting of five items, and is in five-point Likert type. Cronbach's Alpha coefficients were found to be at an elevated level for the environment (α = .705), economy (α = .774), society (α = .782), and education (α = .741) dimensions.

Analysing the Data

In order to examine the relationship between university students' perceptions of individual innovativeness, social entrepreneurship and sustainable development awareness, the data collected from the sample were uploaded to the SPSS 22 package programme and descriptive statistics were attempted to be obtained. Subsequently, the data set was subjected to an outlier analysis. The observation that all of the raw scores were transformed into standard z-scores within a range of ±3 suggests that the data set is not affected by a single outlier. The Mahalanobis values of each participant were then compared with chi-square, and it was determined that there were no issues with outliers, as all values fell within the central range (Tabachnick & Fidell, 2013).

The data set was also subjected to univariate and multivariate normality analysis. It was observed that the assumption of univariate normality (George & Mallery, 2011) was met since the kurtosis and skewness coefficients were between ± 2.0 (Table 8), and the assumption of multivariate normality (Seçer, 2015) was met since the Mahalanobis distance and Cook's values approached zero and the leverage value was found to be 0.05 and below. Conversely, an examination of the data set for the presence of multicollinearity revealed that no such issue was identified, as the correlation coefficient between the independent variables was found to be less than 0.80 (Bowen & Guo, 2011). In addition, tolerance and variance inflation values (VIF) were also checked. Should the tolerance values corresponding to the relationship coefficient between the independent variables in the model be less than 0.20, this would indicate a problem with the data set (Şencan, 2005). It was observed that the tolerance values for the key variables ranged between 0.433 and 0.966. VIF values correspond to the ratio of non-common variance among the variables under analysis within the scope of the research. The estimated VIF

values of the variables were found to have values ranging between 1.035 and 2.308. According to Şencan (2005), VIF values greater than 4.00 indicate a multicollinearity problem. However, all VIF values in the data set are estimated to be less than 4.00, indicating that there is no multicollinearity problem in terms of the data set.

A series of analyses were conducted to ascertain whether there were discernible differences in the perceptions of individual innovativeness, perceptions of social entrepreneurship and awareness of sustainable development among university students, with the Independent Samples t-Test employed for variables with two groups and One-Way ANOVA tests for those with more than two groups, given that the data set satisfied the normality assumption. In instances where group comparisons were made in one-way ANOVA analyses, Tukey's test was employed when the variances were equal, Scheffe's test when the group sizes were relatively equal, and Dunnett's T3 test when the variances were not equal.

Ethical Approval: Ethics committee approval was received from the Social and Human Sciences Research Ethics Committee of Fırat University Rectorate, dated 01/11/2019 and numbered 357223.

FINDINGS

This part contains the results of the research.

Table 2. Descriptive Statistics Related to Scales and Subscales

Variables	X̄	SD	Skewness	Kurtosis	Min	Max	VIF	Tolerance
Individual Innovation	3.675	0.448	-0.510	0.593	1.65	5.00	1.109	.839
Risk Taking	3.573	0.810	-0.426	0.071	1.00	5.00	1.189	.841
Resistance to Change	3.220	0.714	-0.290	0.024	1.00	5.00	1.035	.966
Intellectual Leadership	3.925	0.673	-0.766	1.132	1.00	5.00	1.964	.509
Openness to Experience	4.195	0.522	-0.585	0.832	1.80	5.00	2.108	.474
Social Entrepreneurship	4.057	0.489	-0.436	0.471	2.30	5.00	1.626	.607
Risk Taking	4.088	0.601	-0.562	0.366	1.57	5.00	1.947	.514
Self-confidence	4.000	0.575	-0.578	0.835	1.63	5.00	2.308	.433
Personal Creativity	4.104	0.534	-0.540	1.073	1.60	5.00	1.643	.609
Sustainable Development	4.366	0.416	-0.756	1.141	2.15	5.00		
Environment	4.249	0.519	-0.513	-0.044	2.40	5.00		
Economy	4.340	0.537	-0.555	0.108	2.00	5.00		
Education	4.485	0.478	-0.919	1.038	2.00	5.00		
Community	4.389	0.512	-0.548	-0.109	2.00	5.00		

Note: X̄= arithmetic mean, SD= standard deviation

As seen in Table 2, analysis of the descriptive statistics of the variables used in the study revealed that the sub-dimensions of intellectual leadership (X̄=3.675, SD=0.448), openness to experience (X̄=4.195, SD=0.522), risk-taking (X̄=3.573, SD=0.810), and individual innovativeness (X̄=3.675, SD=0.448) were calculated at a medium level, while resistance to change (X̄=3.220, SD=0.714) was calculated at a high level. Conversely, high scores were obtained for the sub-dimensions of social entrepreneurship (X̄ = 4.057, SD = 0.489), risk-taking (X̄ = 4.088, SD = 0.601), self-confidence (X̄ = 4.000, SD = 0.575), and personal creativity (X̄ = 4.104, SD = 0.534). However, it was determined that the latent variable of sustainable development awareness of university students (X̄=4.366, SD= 0.416) and the sub-dimensions of this latent variable such as environment (X̄= 4.249, SD= 0.519), economy (X̄=

4.340, SD= 0.537), education (X̄= 4.485, SD= 0.478) and community (X̄= 4.389, SD= 0.512) were at a very high level.

Table 3. t-Test Results of Scales and Subscales According to Gender Variable

Variables	Female N=484		male N=274		Homogeneity Test		t-Test	
	X̄	SD	X̄	SS	f	p	t	P
Individual Innovation	3,677	0,426	3,673	0,488	6,083	0,014	0,138	0,891
Risk Taking	3,533	0,796	3,644	0,832	0,001	0,975	-1,816	0,070
Resistance to Change	3,224	0,687	3,214	0,762	3,542	0,060	0,181	0,857
Intellectual Leadership	3,931	0,645	3,916	0,721	1,079	0,299	0,285	0,776
Openness to Experience	4,207	0,496	4,174	0,566	5,854	0,016	0,823	0,411
Social Entrepreneurship	4,036	0,467	4,095	0,524	3,160	0,076	-1,619	0,106
Risk Taking	4,087	0,576	4,091	0,646	1,276	0,259	-0,080	0,936
Self-confidence *	3,859	0,556	4,073	0,602	1,641	0,201	-2,626	0,009
Personal Creativity	4,086	0,521	4,138	0,557	2,713	0,100	-1,287	0,198
Sustainable Development	4,371	0,382	4,358	0,471	7,547	0,006	0,396	0,692
Environment	4,261	0,487	4,229	0,573	5,992	0,015	0,767	0,443
Economy	4,335	0,498	4,351	0,601	10,290	0,001	-0,383	0,702
Education	4,510	0,450	4,444	0,522	5,611	0,018	1,747	0,081
Community	4,379	0,479	4,409	0,567	7,976	0,005	-0,764	0,445

Notes: X̄= arithmetic mean; SD= standard deviation; *values found to be significant (p<.05)

Table 3 shows the results of the t-test to determine whether the individual innovativeness and social entrepreneurship perceptions and sustainable development awareness of the university students participating in the research vary according to gender variable. The t-test results examining the variance in individual innovativeness, social entrepreneurship perceptions, and sustainable development awareness among university students based on gender indicate no significant differences. Specifically, individual innovativeness (t= .138, p > .05), risk-taking (t= -1.816, p > .05), resistance to change (t= .181, p > .05), idea leadership (t= .285, p > .05), and openness to experience (t= .823, p > .05) show no statistically significant variation according to gender. Analyzing the t-test results in relation to social entrepreneurship reveals that there is a significant difference in the self-confidence dimension (t= -2.626, p <.05), but not in the social entrepreneurship variable (t= -1.619, p >.05), risk taking (t= -.080, p >.05), or personal creativity (t= -1.287, p >.05). The self-confidence scores of male university students (X̄=4.073) are notably higher than those of female university students (X̄=3.859). The findings of the t-test show that there is no significant difference in the sub-dimensions of the environment (t=.767, p >.05), economy (t=-.383, p >.05), education (t= 1.747, p >.05), and society (t= -.764, p >.05) as well as the sustainable development variable (t=.396, p >.05).

Table 4. One-Way Analysis of Variance Results of Scales and Subscales According to Age Variable

Variables	Younger than 20 N=27		20-24 N=602		25-29 N=90		Older than 30 N=39		Test of Homogeneity		ANOVA		Groups with Difference
	X̄	SD	X̄	SD	X̄	SD	X̄	SD	Levene	p	f	P	
Individual Innovation	3.668	.506	3.674	.442	3.618	.467	3.676	.477	.478	.698	.430	.732	-

Risk Taking	3.778	.738	3.556	.806	3.633	.770	3.564	.994	1.101	.711	.834	.475	-
Resistance to Change	3.148	.607	3.226	.701	3.267	.731	3.091	.919	2.730	.053	.684	.562	-
Thought Leadership	3.948	.783	3.921	.662	3.951	.726	3.913	.650	1.968	.117	.066	.978	-
Openness to Experience	4.178	.524	4.192	.507	4.222	.626	4.195	.501	2.545	.055	.097	.961	-
Social Entrepreneurship	3.996	.522	4.036	.475	4.147	.564	4.209	.451	1.516	.209	2.795	.075	-
Risk Taking	4.095	.593	4.073	.596	4.168	.650	4.135	.585	.333	.802	.738	.530	-
Self-confidence	3.898	.690	3.891	.690	4.076	.695	4.185	.553	2.863	.532	2.388	.468	-
Personal Creativity*	4.014	.562	4.073	.524	4.233	.581	4.348	.446	1.724	.161	5.469	.001	2 < 4
Sustainable Development	4.259	.476	4.356	.405	4.426	.462	4.447	.414	.383	.800	1.831	.140	-
Environment	4.133	.537	4.247	.514	4.284	.541	4.328	.530	.042	.988	.905	.438	-
Economy	4.296	.585	4.320	.520	4.435	.599	4.456	.582	.627	.598	1.878	.132	-
Education	4.377	.533	4.377	.463	4.486	.557	4.528	.411	1.472	.221	.564	.639	-
Community	4.229	.599	4.374	.502	4.504	.538	4.476	.510	.358	.295	2.837	.067	-

Notes: X̄= arithmetic mean; SD= standard deviation; *values found to be significant (p<.05)

To ascertain if the perceptions of individual innovativeness, social entrepreneurship, and awareness of sustainable development among the university students involved in the study differ based on the age variable, one-way ANOVA analyses were conducted. As seen in table 4, individual innovativeness (F=.430, p>.05), risk-taking (F=.834, p>.05), resistance to change (F=.684, p>.05), idea leadership (F=.066, p>.05), and openness to experience (F=.097, p>.05) perceptions do not significantly differ based on age, according to ANOVA analyses. The analyses reveal that there is a significant difference in the personal creativity sub-dimension according to the age variable (F= 5.469, p<.05), but not in the social entrepreneurship variable (F= 2.795, p>.05) or the sub-dimensions of risk taking (F=.738, p>.05) or self-confidence (F= 2.388, p>.05). It was found through group difference analyses that there was a difference between university students who were between the ages of 20 and 24 and those who were 30 years of age and older. Upon analyzing the arithmetic averages, it was found that university students aged 30 and above had greater personal creativity ratings (X̄=4.348) compared to those aged 20 to 24 (X̄=4.073). The sustainable development variable (F= 1.831, p>.05) and its sub-dimensions of the environment (F=.905, p>.05), economy (F= 1.878, p>.05), education (F=.564, p>.05), and society (F= 2.837, p>.05) do not differ significantly, according to ANOVA analyses.

Table 5. One-Way Analysis of Variance Results of Scales and Subscales According to Education Variable

Variables	Faculty N=144		College N=585		Test of Homogeneity		t-Test	
	X̄	SD	X̄	SD	f	p	t	P
Individual Innovation	**3,689**	**0,488**	**3,675**	**0,442**	**3,736**	**0,054**	**0,328**	**0,743**
Risk Taking	3,615	0,876	3,559	0,800	1,108	0,293	0,733	0,464
Resistance to Change	3,296	0,776	3,204	0,700	2,997	0,084	1,377	0,169
Thought Leadership	3,838	0,653	3,952	0,677	0,243	0,622	-1,833	0,067

Openness to Experience	4,199	0,538	4,198	0,516	0,884	0,347	0,014	0,989
Social Entrepreneurship*	3,868	0,532	4,086	0,473	0,455	0,500	-2,614	0,009
Risk Taking	4,024	0,609	4,119	0,590	0,042	0,837	-1,730	0,084
Self-confidence*	3,881	0,648	4,035	0,549	1,295	0,256	-2,901	0,004
Personal Creativity	4,028	0,625	4,120	0,512	0,582	0,446	-1,848	0,065
Sustainable Development	4,351	0,393	4,373	0,424	1,618	0,204	-0,573	0,567
Environment*	4,169	0,562	4,275	0,509	0,875	0,350	-2,173	0,030
Economy	4,340	0,539	4,345	0,543	0,012	0,912	-0,100	0,921
Education	4,438	0,450	4,496	0,488	1,227	0,268	-1,309	0,191
Community	4,456	0,504	4,376	0,513	0,124	0,724	1,670	0,095

Notes: $\bar{X}$= arithmetic mean; SD= standard deviation; *values found to be significant (p<.05)

The results of the t-test conducted to determine whether university students' individual innovativeness and social entrepreneurship perceptions and sustainable development awareness vary according to the unit of study (faculty or college) show that the individual innovativeness variable (t= . 328, p > .05) and risk taking (t= .733, p > .05), resistance to change (t= 1.377, p > .05), idea leadership (t= -1.833, p > .05) and openness to experience (t= .014, p > .05). Table 4 presents the findings of the t-test as well as the descriptive information gathered to ascertain whether there is a difference between university students' views of their own inventiveness and social entrepreneurship and their knowledge of sustainable development and their status as faculty or college students. When the t-test results were examined in the context of social entrepreneurship, it was discovered that, in relation to the status of education in faculty or college, there was no significant difference in the sub-dimensions of risk taking (t= -1.730, p >.05) and personal creativity (t= -1.848, p >.05). However, there was a significant difference in the social entrepreneurship variable (t= -2.614, p <.05) and the self-confidence sub-dimension (t= -2.901, p <.05). It's interesting to note that university students studying in colleges scored higher on social entrepreneurship ($\bar{X}$=4.086) and self-confidence ($\bar{X}$=4.035) than those studying in faculties ($\bar{X}$=3.868) and self-confidence ($\bar{X}$=3.881). The analysis of the t-test results in terms of awareness of sustainable development revealed that, when considering the status of education in faculties or colleges, there was no difference in the sub-dimensions of sustainable development (t=-.573, p >.05), economy (t= -.100, p >.05), education (t= -1.309, p >.05), and society (t= 1.670, p >.05). However, there was a difference in terms of environmental awareness (t=-2.173, p <.05). According to the findings, students studying in colleges had higher environmental awareness ratings ($\bar{X}$=4.275) than students studying in faculties ($\bar{X}$=4.169).

Table 6. One-Way Analysis of Variance Results of Scales and Subscales According to Grade Point Average Variable

Variables	Lower than 2,00 N=18		2,01-3,00 N=269		3,01-3,50 N=349		3,51-4,00 N=90		Test of Homogeneity		ANOVA		Groups with Difference
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	Levene	p	f	P	
Individual Innovation	**3,539**	**0,597**	**3,677**	**0,439**	**3,693**	**0,442**	**3,645**	**0,478**	**2,587**	**0,052**	**0,856**	**0,464**	-
Risk Taking	3,833	0,804	3,580	0,785	3,574	0,797	3,500	0,983	3,004	0,030	0,853	0,465	-
Resistance to Change	3,028	0,899	3,266	0,713	3,216	0,700	3,185	0,766	1,466	0,222	0,852	0,466	-
Thought Leadership*	3,533	0,910	3,886	0,684	3,977	0,623	3,909	0,743	3,461	0,016	3,086	0,027	1<3
Openness to Experience	4,244	0,584	4,167	0,506	4,217	0,521	4,176	0,586	2,077	0,102	0,563	0,639	-
Social Entrepreneurship	4,019	0,654	4,022	0,489	4,075	0,466	4,109	0,539	0,799	0,495	0,991	0,396	-
Risk Taking	4,024	0,914	4,069	0,574	4,098	0,603	4,122	0,630	2,628	0,049	0,285	0,837	-
Self-confidence	3,993	0,786	3,954	0,599	4,028	0,521	4,058	0,643	3,641	0,013	1,135	0,334	-
Personal Creativity	4,056	0,556	4,065	0,518	4,119	0,535	4,173	0,575	0,789	0,500	1,115	0,342	-

Sustainable Development	4,253	0,533	4,341	0,412	4,388	0,411	4,409	0,420	0,876	0,453	1,413	0,238	-
Environment	4,067	0,726	4,213	0,502	4,285	0,510	4,298	0,545	2,785	0,040	1,964	0,118	-
Economy	4,222	0,609	4,302	0,546	4,364	0,524	4,387	0,549	0,227	0,878	1,207	0,306	-
Education	4,433	0,607	4,471	0,501	4,503	0,462	4,511	0,440	2,632	0,049	0,366	0,777	-
Community	4,289	0,644	4,376	0,506	4,401	0,508	4,440	0,512	1,818	0,142	0,627	0,598	-

Notes: X̄= arithmetic mean; SD= standard deviation; *values found to be significant (p<.05)

One-way ANOVA analysis was performed to determine whether university students' individual innovativeness and social entrepreneurship perceptions and sustainable development awareness vary according to the grade point average variable (Table 6). When the ANOVA results were analyzed in terms of individual innovativeness perception and its sub-dimensions, no significant difference was found in the individual innovativeness variable (F=.856, p > .05) and its sub-dimensions of risk taking (F=.853, p > .05), resistance to change (F=.852, p > .05) and openness to experience (F=.563, p > .05), but a significant difference was observed in the sub-dimension of idea leadership in terms of grade point average (F=3.086, p < .05). When Dunnett's T3 tests were used to compare groups of students, it was found that those with a GPA between 3.00 and 3.50 (X̄= 3.977) had mean opinion leadership scores that were greater than those of those with a GPA of less than 2.00. The ANOVA results indicated that, in terms of grade point average, there was no significant difference in the dimensions of social entrepreneurship (F=.991, p >.05), risk-taking (F=.285, p >.05), self-confidence (F=1.135, p >.05), and personal creativity (F=1.115, p >.05). Similarly, the ANOVA results show that there is no significant difference in the sub-dimensions of environment (F= 1.964, p >.05), economy (F= 1.207, p >.05), education (F=.366, p >.05), and society (F=.627, p >.05) when it comes to grade point average in the sustainable development variable (F= 1.413, p >.05).

Table 7. One-Way Analysis of Variance Results of Scales and Subscales According to Mother's Education Status Variable

Variables	**Illiterate N=367**		**Primary School N=286**		**Secondary School N=55**		**High School N=35**		**University N=15**		**Test of Homogeneity**		**ANOVA**		**Groups with Difference**
	X̄	**SD**	**X̄**	**SD**	**X̄**	**SD**	**X̄**	**SD**	**X̄**	**SD**	**Levene**	**p**	**f**	**P**	
Individual Innovation	3,651	0,435	3,693	0,480	3,719	0,395	3,757	0,430	3,597	0,391	1,799	0,127	0,916	0,454	-
Risk Taking	3,546	0,805	3,622	0,833	3,536	0,744	3,657	0,745	3,233	0,863	0,970	0,423	1,147	0,333	-
Resistance to Change	3,186	0,702	3,243	0,760	3,245	0,596	3,371	0,686	3,208	0,576	1,610	0,170	0,697	0,594	-
Thought Leadership	3,904	0,657	3,928	0,733	4,033	0,564	3,994	0,517	3,853	0,593	1,438	0,220	0,581	0,677	-
Openness to Experience	4,185	0,544	4,207	0,524	4,236	0,437	4,177	0,396	4,107	0,518	1,302	0,268	0,272	0,896	-
Social Entrepreneurship	4,066	0,487	4,058	0,515	4,075	0,395	3,939	0,470	4,053	0,398	1,649	0,160	0,560	0,692	-
Risk Taking	4,098	0,577	4,097	0,646	4,112	0,483	3,943	0,694	3,933	0,473	2,162	0,072	0,820	0,512	-
Self-confidence	4,009	0,585	3,994	0,593	4,030	0,440	3,896	0,531	4,058	0,582	1,289	0,273	0,385	0,819	-
Personal Creativity	4,112	0,559	4,104	0,527	4,095	0,471	4,000	0,497	4,213	0,366	1,231	0,296	0,513	0,726	-
Sustainable Development*	4,383	0,419	4,376	0,419	4,350	0,372	4,279	0,419	4,053	0,308	1,107	0,352	2,736	0,028	1 > 5
Environment*	4,301	0,521	4,230	0,522	4,156	0,460	4,114	0,532	4,013	0,481	0,547	0,701	2,831	0,024	1 > 5
Economy*	4,363	0,535	4,349	0,545	4,331	0,508	4,229	0,538	3,920	0,361	1,407	0,230	2,896	0,021	1 > 5
Education	4,481	0,475	4,511	0,486	4,505	0,454	4,434	0,479	4,160	0,401	0,952	0,433	2,088	0,081	-
Community	4,385	0,520	4,413	0,505	4,407	0,516	4,337	0,533	4,120	0,345	1,954	0,100	1,310	0,265	-

Notes: X̄= arithmetic mean; SD= standard deviation; *values found to be significant (p<.05)

One-way ANOVA analysis was performed to determine whether university students' individual innovativeness and social entrepreneurship perceptions and sustainable development awareness vary according to the mother's education status variable (Table 7). ANOVA results indicate that there is no significant difference in individual

innovativeness variable and sub-dimensions in terms of mother's education level. Likewise, ANOVA results showed that there was no significant difference in social entrepreneurship variable and sub-dimensions according to mother's education level. A significant difference was found in the environment (F=2.831, p<.05) and economy awareness (F=2.896, p<.05) sub-dimensions with the sustainable development latent variable (F=2.736, p<.05) when the ANOVA results were analyzed in terms of sustainable development awareness and its sub-dimensions. However, no significant difference was found in the education (F=2.088, p>.05) and community (F=1.310, p>.05) sub-dimensions. The results of the Scheffe test group comparisons showed that the university students whose mothers were illiterate scored higher on the measures of sustainable development ($\bar{X}$=4.383), environmental awareness ($\bar{X}$=4.301), and economic awareness ($\bar{X}$=4.363) than the university students whose mothers were graduates, with $\bar{X}$=4.053, environmental awareness ($\bar{X}$=4.013), and economic awareness ($\bar{X}$=3.920).

Table 8. One-Way Analysis of Variance Results of Scales and Subscales According to Father's Education Status Variable

Variables	Illiterate N=100		Primary School N=339		Secondary School N=139		High School N=103		University N=77		Test of Homogeneity		ANOVA		Groups with Difference
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	Levene	p	f	P	
Individual Innovation	3,617	0,409	3,675	0,463	3,716	0,425	3,702	0,473	3,645	0,444	0,162	0,957	0,885	0,472	-
Risk Taking	3,545	0,782	3,603	0,834	3,529	0,782	3,636	0,805	3,474	0,807	0,854	0,491	0,693	0,597	-
Resistance to Change	3,065	0,764	3,238	0,707	3,317	0,661	3,160	0,754	3,252	0,696	1,174	0,321	2,108	0,078	-
Thought Leadership	3,918	0,660	3,900	0,697	3,924	0,625	4,074	0,634	3,849	0,706	0,425	0,791	1,623	0,167	-
Openness to Experience	4,228	0,545	4,179	0,548	4,222	0,465	4,223	0,505	4,140	0,501	1,044	0,383	0,557	0,694	-
Social Entrepreneurship	4,097	0,445	4,048	0,510	4,099	0,434	4,085	0,519	3,934	0,491	1,833	0,120	1,753	0,136	-
Risk Taking*	4,149	0,572	4,102	0,599	4,102	0,548	4,129	0,643	3,870	0,656	0,974	0,421	2,993	0,018	1>5 2>5
Self-confidence	4,009	0,535	3,983	0,604	4,076	0,533	4,028	0,569	3,891	0,572	1,124	0,344	1,444	0,218	-
Personal Creativity	4,164	0,488	4,077	0,586	4,129	0,443	4,115	0,530	4,091	0,517	2,287	0,058	0,626	0,644	-
Sustainable Development	4,394	0,401	4,380	0,438	4,352	0,371	4,351	0,422	4,318	0,408	0,557	0,694	0,542	0,705	-
Environment*	4,330	0,514	4,291	0,520	4,227	0,491	4,142	0,536	4,145	0,522	0,188	0,945	3,114	0,015	1>4 1>5 2>4 2>5
Economy	4,406	0,507	4,346	0,568	4,315	0,474	4,332	0,565	4,288	0,510	1,793	0,128	0,646	0,630	-
Education	4,484	0,461	4,473	0,496	4,511	0,455	4,513	0,485	4,462	0,459	0,384	0,820	0,281	0,890	-
Community	4,356	0,522	4,409	0,518	4,354	0,482	4,417	0,531	4,374	0,511	0,666	0,616	0,496	0,739	-

Notes: $\bar{X}$= arithmetic mean; SD= standard deviation; *values found to be significant (p<.05)

To find out if the father's educational status variable affects university students' perceptions of their own innovativeness, social entrepreneurship, and awareness of sustainable development, one-way ANOVA analyses were performed. As seen in table 8, the father's educational degree has no discernible impact on the individual innovativeness variable or any of its sub-dimensions. ANOVA results of social entrepreneurship perception and its sub-dimensions according to father's education level show that there is a significant difference only in the risk-taking dimension (F=2.993, p < .05), but there is no significant difference in the social entrepreneurship variable (F=1.753, p > .05) and in the sub-dimensions of self-confidence (F=1.444, p > .05) and personal creativity (F=.626, p > .05). In the group comparisons performed with Scheffe test, it was determined that the risk-taking

perception scores of university students whose fathers were illiterate (X̄=4.149) and primary school graduates (X̄=4.102) were higher than the risk-taking perception scores of university students whose fathers were university graduates (X̄=3.870). The results of the ANOVA analysis in terms of the sustainable development awareness variable show that there is no significant difference in the sustainable development variable (F=.542, p > .05) and the sub-dimensions of economy (F=.646, p > .05), education (F=.281, p > .05) and society (F=.496, p > .05); however, there is a significant difference in the environmental awareness sub-dimension according to the father's education level (F=3.114, p < .05). In group comparisons, it was determined that the environmental awareness scores of university students whose fathers were illiterate (X̄=4.330) and primary school graduates (X̄=4.291) were higher than the environmental awareness scores of students whose fathers were high school graduates (X̄=4.142) and university graduates (X̄=4.145).

Table 9. One-Way Analysis of Variance Results of Scales and Subscales According to Family Income Status Variable

Variables	0-2000 N=358		2001-3000 N=201		3001-4000 N=120		4001 and more N=79		Test of Homogeneity		ANOVA		Groups with Difference
	X̄	SS	X̄	SS	X̄	SS	X̄	SS	Levene	p	f	P	
Individual Innovation	3,667	0,433	3,663	0,465	3,728	0,447	3,668	0,482	0,408	0,747	0,646	0,585	-
Risk Taking	3,577	0,790	3,535	0,822	3,654	0,801	3,532	0,889	0,617	0,604	0,620	0,602	-
Resistance to Change	3,181	0,688	3,230	0,747	3,309	0,690	3,242	0,782	0,513	0,673	1,022	0,382	-
Thought Leadership	3,940	0,674	3,878	0,690	3,960	0,624	3,929	0,705	0,676	0,567	0,497	0,685	-
Openness to Experience	4,209	0,540	4,191	0,526	4,195	0,473	4,142	0,509	1,087	0,354	0,368	0,776	-
Social Entrepreneurship	4,078	0,495	4,046	0,469	4,041	0,482	4,017	0,530	0,598	0,616	0,470	0,703	-
Risk Taking	4,119	0,585	4,096	0,585	4,035	0,635	4,011	0,665	0,575	0,631	1,083	0,355	-
Self-confidence	4,022	0,591	3,971	0,568	3,997	0,546	3,981	0,573	0,852	0,466	0,382	0,766	-
Personal Creativity	4,109	0,551	4,097	0,481	4,120	0,530	4,084	0,600	1,069	0,361	0,097	0,962	-
Sustainable Development	4,364	0,431	4,371	0,417	4,369	0,384	4,363	0,400	0,569	0,636	0,014	0,998	-
Environment	4,294	0,533	4,205	0,518	4,253	0,457	4,154	0,540	1,808	0,144	2,257	0,081	-
Economy	4,326	0,559	4,358	0,519	4,332	0,516	4,375	0,518	0,957	0,413	0,273	0,845	-
Education	4,454	0,492	4,531	0,473	4,495	0,462	4,501	0,448	0,793	0,498	1,192	0,312	-
Community	4,382	0,515	4,388	0,504	4,395	0,520	4,420	0,518	0,323	0,809	0,124	0,946	-

Notes: X̄= arithmetic mean; SD= standard deviation

One-way ANOVA analysis was performed to determine whether university students' perceptions of individual innovativeness and social entrepreneurship and sustainable development awareness vary according to family income status variable (Table 9). Since the minimum wage in Turkey was 2000 Turkish Liras (TL) at the time of the study, 2000 TL was accepted as the starting point in determining the effect of students' income on the variables subject to the study in the first part of the questionnaire. ANOVA analyses revealed that there was no significant difference in the variables related to sustainable development, social entrepreneurship, and individual innovation, as well as their sub-dimensions, based on family income status.

Table 10. One-Way Analysis of Variance Results of Scales and Subscales According to Mother's Occupation Variable

Variables	Housewife N=719		Public Sector N=12		Private Sector N=15		Retired N=12		Test of Homogeneity		ANOVA		Groups with Difference
	X̄	SD	X̄	SD	X̄	SD	X̄	SD	Levene	p	f	P	
Individual Innovation	3,672	0,449	3,567	0,489	3,767	0,405	3,913	0,439	0,118	0,950	1,577	0,194	-
Risk Taking	3,576	0,808	3,042	0,964	3,800	0,676	3,667	0,835	0,660	0,577	2,178	0,089	-

Resistance to Change	3,213	0,716	3,125	0,564	3,308	0,665	3,677	0,738	0,262	0,852	1,814	0,143	-
Thought Leadership	3,924	0,674	3,850	0,827	4,013	0,548	3,950	0,683	0,184	0,907	0,141	0,935	-
Openness to Experience	4,192	0,527	4,200	0,482	4,240	0,348	4,350	0,513	0,834	0,475	0,399	0,754	-
Social Entrepreneurship	4,058	0,494	4,025	0,434	4,060	0,342	4,042	0,453	1,039	0,375	0,022	0,996	-
Risk Taking	4,091	0,606	4,000	0,565	4,086	0,539	4,036	0,531	0,460	0,710	0,120	0,948	-
Self-confidence	3,999	0,583	4,052	0,397	4,058	0,316	3,948	0,578	2,532	0,056	0,117	0,950	-
Personal Creativity	4,106	0,538	4,017	0,478	4,027	0,440	4,200	0,505	0,866	0,459	0,343	0,794	-
Sustainable Development	4,373	0,418	4,121	0,382	4,240	0,354	4,396	0,311	0,990	0,397	1,936	0,122	-
Environment	4,252	0,524	4,100	0,463	4,147	0,350	4,383	0,447	1,949	0,120	0,796	0,496	-
Economy	4,352	0,536	4,083	0,529	4,067	0,476	4,267	0,568	0,435	0,728	2,412	0,066	-
Education	4,490	0,479	4,217	0,413	4,413	0,521	4,600	0,362	1,248	0,291	1,632	0,181	-
Community	4,397	0,515	4,083	0,404	4,333	0,412	4,333	0,535	1,714	0,163	1,591	0,190	-

Notes: X̄= arithmetic mean; SD= standard deviation

As seen in Table 10, according to the results of the one-way ANOVA analysis performed to determine whether university students' perceptions of individual innovativeness, social entrepreneurship and sustainable development awareness vary according to the mother's occupation variable, it was determined that there was no difference in the mentioned 3 variables and their sub-dimensions according to the mother's occupation.

Table 11. One-Way Analysis of Variance Results of Scales and Subscales According to Father's Occupation Variable

Variables	Not employed N=204		Public sector N=107		Private sector N=66		Self-employment N=184		Retired N=197		Test of Homogeneity		ANOVA		Groups with Difference
	X̄	SD	X̄	SD	X̄	SD	X̄	SD	X̄	SD	Levene	p	f	P	
Individual Innovation	3,683	0,442	3,664	0,516	3,723	0,411	3,639	0,416	3,694	0,460	1,188	0,314	0,609	0,656	-
Risk Taking	3,618	0,825	3,561	0,776	3,720	0,755	3,478	0,821	3,574	0,818	0,348	0,846	1,333	0,256	-
Resistance to Change	3,200	0,700	3,209	0,783	3,218	0,672	3,232	0,692	3,239	0,731	0,343	0,849	0,094	0,984	-
Thought Leadership	3,939	0,701	3,929	0,754	4,030	0,548	3,821	0,651	3,972	0,650	1,113	0,349	1,775	0,132	-
Openness to Experience	4,225	0,536	4,168	0,512	4,227	0,476	4,171	0,528	4,192	0,526	0,625	0,645	0,396	0,811	-
Social Entrepreneurship	4,104	0,481	4,009	0,539	4,054	0,442	4,021	0,461	4,070	0,509	0,984	0,416	1,018	0,397	-
Risk Taking	4,146	0,570	3,985	0,651	4,106	0,650	4,062	0,564	4,103	0,621	1,186	0,315	1,391	0,235	-
Self-confidence	4,034	0,604	3,966	0,598	4,006	0,483	3,968	0,534	4,012	0,600	1,334	0,256	0,438	0,781	-
Personal Creativity	4,157	0,502	4,112	0,591	4,058	0,517	4,047	0,529	4,117	0,545	0,727	0,574	1,186	0,315	-
Sustainable Development*	4,417	0,399	4,362	0,404	4,412	0,378	4,273	0,441	4,389	0,418	0,524	0,718	3,467	0,008	1-4 3-4 4-5
Environment*	4,355	0,517	4,209	0,537	4,245	0,501	4,158	0,502	4,249	0,521	0,535	0,710	3,752	0,005	1-2 1-4 1-5
Economy*	4,396	0,520	4,301	0,508	4,409	0,510	4,242	0,563	4,374	0,545	0,493	0,741	2,705	0,029	1-4 3-4 3-5 4-5
Education	4,507	0,454	4,505	0,487	4,542	0,461	4,411	0,512	4,505	0,467	0,174	0,952	1,583	0,177	-
Community*	4,410	0,513	4,432	0,504	4,452	0,463	4,280	0,525	4,427	0,510	0,353	0,842	2,887	0,022	1-4 2-4 3-4 4-5

Notes: X̄= arithmetic mean; SD= standard deviation; *values found to be significant (p<.05)

A one-way ANOVA analysis was conducted to ascertain whether there are variations in university students' individual innovativeness, perceptions of social entrepreneurship, and awareness of sustainable development according to the variable of their father's occupation (Table 11). The ANOVA analysis yielded no statistically significant differences in the individual innovativeness variable and its sub-dimensions according to the father's occupation. Similarly, no significant differences were observed in the social entrepreneurship variable and its

sub-dimensions according to the father's occupation. On the other hand, the results of the ANOVA for sustainable development awareness indicate a significant difference in the sustainable development variable (F=3.467, p<.05) and its sub-dimensions of environment (F=3.752, p<.05), economy (F=2.7 According to the father's occupation, there is a significant difference in the sustainable development variable (F=3.467, p<.05) and its sub-dimensions of environment (F=3.752, p<.05) and society (F=2.887, p<.05). However, no significant difference is observed in the sub-dimension of education (F=1.583, p>.05). The Scheffe tests revealed that the sustainable development awareness scores of university students whose fathers were not employed ($\bar{X}$= 4.417), privately employed ($\bar{X}$= 4.412) and retired ($\bar{X}$= 4.389) were higher than those of university students whose fathers were self-employed ($\bar{X}$= 4.273). The group comparisons conducted to ascertain the disparity in environmental awareness revealed that the environmental awareness scores of university students whose fathers were not employed ($\bar{X}$= 4.355) were higher than the scores of university students whose fathers were self-employed ($\bar{X}$= 4.158) and retired ($\bar{X}$= 4.249). In the group comparisons made to identify differences in economic awareness, the scores of those whose fathers were not working ($\bar{X}$= 4.396), those whose fathers were privately employed ($\bar{X}$= 4.409) and those whose fathers were retired ($\bar{X}$=4.374) were found to be higher than the scores of those whose fathers were self-employed ($\bar{X}$=4.242). Furthermore, it was noted that the economic awareness scores of those whose fathers were employed in the private sector ($\bar{X}$=4.409) were higher than those of those whose fathers were retired ($\bar{X}$=4.374). In the context of social awareness, group comparisons revealed that the scores of those whose fathers were not working ($\bar{X}$=4.410), working in the public sector ($\bar{X}$=4.432), and those whose fathers were employed in the private sector ($\bar{X}$=4.452) and those who were retired ($\bar{X}$=4.427) exhibited higher scores than those whose fathers were self-employed ($\bar{X}$=4.280).

Table 12. t-Test Results of the Scales and Subscales According to the Variable of Receiving or Not Receiving Training

Variables	Trained N=62		Non-trained N=696		Test of Homogeneity		*t-Test*	
	$\bar{X}$	SD	$\bar{X}$	SD	f	p	t	P
Individual Innovation	3,728	0,509	3,671	0,443	4,427	0,036	0,855	0,395
Risk Taking*	3,847	0,935	3,549	0,795	2,665	0,103	2,786	0,005
Resistance to Change	3,177	0,884	3,224	0,698	5,925	0,015	-0,408	0,685
Thought Leadership	4,023	0,677	3,917	0,673	0,120	0,729	1,187	0,235
Openness to Experience	4,268	0,577	4,189	0,517	1,521	0,218	1,141	0,254
Social Entrepreneurship*	4,184	0,528	4,046	0,484	0,928	0,336	2,132	0,033
Risk Taking	4,196	0,621	4,079	0,600	0,286	0,593	1,468	0,142
Self-confidence*	4,153	0,627	3,987	0,569	1,262	0,262	2,189	0,029
Personal Creativity	4,216	0,534	4,095	0,534	0,307	0,580	1,714	0,087
Sustainable Development	4,449	0,409	4,359	0,416	0,513	0,474	1,638	0,102
Environment	4,303	0,496	4,245	0,522	1,858	0,173	0,852	0,394
Economy	4,384	0,545	4,337	0,537	0,479	0,489	0,661	0,509
Education*	4,616	0,407	4,474	0,482	5,196	0,023	2,590	0,011
Community	4,494	0,504	4,380	0,512	0,624	0,430	1,668	0,096

Notes: $\bar{X}$= arithmetic mean; SD= standard deviation; *values found to be significant (p<.05)

The study revealed that the perceptions of individual innovativeness and social entrepreneurship among university students participating in the research varied depending on their level of training in relation to sustainability. As seen in table 12, the results of the t-test for the variable of individual innovativeness (t= .855,

p > .05) and resistance to change (t= -.408, p > .05) indicate no significant difference based on the level of education. However, the variable of leadership (t=1 .187) showed a statistically significant difference. The results demonstrated no significant difference between the two groups in the dimensions of experience openness (t=1.141, p>0.05) and experiential familiarity (t=1.187, p>0.05). However, a significant difference was observed in the dimension of risk-taking (t=2.786, p<0.05). Table 11 reveals that the mean scores for risk-taking among university students who have received education in this area ($\bar{X}$=3.847) are higher than those of students who have not received such education ($\bar{X}$=3.549). When the t-test results in terms of social entrepreneurship are analysed, it is understood that there is no significant difference in the sub-dimensions of risk taking (t= 1.418, p > .05) and personal creativity (t= 1.714, p > .05) according to the variable of receiving or not receiving education; however, there is a significant difference in the sub-dimension of social entrepreneurship (t= 2.132, p > .05) and self-confidence (t= 2.189, p > .05). When the averages are controlled, it is seen that the social entrepreneurship ($\bar{X}$=4.184) and self-confidence scores ($\bar{X}$=4.153) of those who received education are higher than the social entrepreneurship ($\bar{X}$=4.046) and self-confidence scores ($\bar{X}$=3.987) of those who did not receive education. The t-test results in Table 11 show that there is no significant difference in the sustainable development variable (t= 1.638, p > .05) and its sub-dimensions of environment (t= .394, p > .05), economy (t= .661, p > .05) and society (t= 1.668, p > .05), but there is a significant difference in the sub-dimension of education (t= 2.590, p < .05). When the averages of those who received training and those who did not receive training were compared, it was determined that the educational awareness scores of those who received training ($\bar{X}$=4.616) were higher than the scores of those who did not receive training ($\bar{X}$=4.474).

Table 13. t-Test Results of the Scales and Subscales According to the Variable of Having Adequate Knowledge or Not Having Adequate Knowledge

Variables	Having Adequate Information N=132		Not Having Adequate Information N=626		Test of Homogeneity		t-Test	
	$\bar{X}$	SD	$\bar{X}$	SD	f	p	t	P
Individual Innovation	3,791	0,456	3,652	0,444	0,293	0,589	3,253	0,001
Risk Taking*	3,674	0,867	3,552	0,797	2,784	0,096	1,578	0,115
Resistance to Change	3,264	0,768	3,211	0,703	1,585	0,208	0,771	0,441
Thought Leadership*	4,155	0,594	3,877	0,679	1,276	0,259	4,355	0,000
Openness to Experience*	4,315	0,532	4,170	0,517	0,565	0,453	2,916	0,004
Social Entrepreneurship*	4,273	0,460	4,012	0,483	0,076	0,782	5,694	0,000
Risk Taking	4,317	0,502	4,040	0,610	3,800	0,052	4,876	0,000
Self-confidence*	4,249	0,536	3,948	0,570	0,220	0,639	5,572	0,000
Personal Creativity*	4,250	0,525	4,074	0,532	0,572	0,450	3,460	0,001
Sustainable Development	4,402	0,402	4,359	0,419	0,475	0,491	1,092	0,275
Environment	4,289	0,518	4,241	0,520	0,022	0,883	0,975	0,330
Economy	4,377	0,512	4,333	0,543	1,630	0,202	0,862	0,389
Education	4,512	0,500	4,480	0,474	0,718	0,397	0,697	0,486
Community	4,430	0,487	4,381	0,517	2,157	0,142	1,002	0,317

Notes: $\bar{X}$= arithmetic mean; SD= standard deviation; *values found to be significant (p<.05)

As seen in table 13, the results of the t-test conducted to determine whether the individual innovativeness and social entrepreneurship perceptions and sustainable development awareness of the university students participating in the research vary according to whether they have sufficient knowledge about these issues or not;

there is a significant difference in the individual innovativeness variable (t= 3. 253, p < .05) and idea leadership (t= 4.355, p < .05) and openness to experience (t= 2.916, p < .05) sub-dimensions; however, there is no significant difference in risk taking (t=1.578, p > .05) and resistance to change (t=.771, p > .05) sub-dimensions. When the averages in Table 12 are analysed, it is understood that the individual innovativeness scores of the university students with sufficient knowledge ($\bar{X}$=3.791) are higher than those without sufficient knowledge ($\bar{X}$=3.652). Similarly, the opinion leadership scores of university students with sufficient knowledge ($\bar{X}$=4.155) were higher than those without sufficient knowledge ($\bar{X}$=3.877). In terms of openness to experience, it was determined that the scores of those with sufficient knowledge ($\bar{X}$=4.315) were higher than the scores of those without sufficient knowledge ($\bar{X}$=4.170). When the t-test results were analysed in terms of social entrepreneurship, it was determined that there was a significant difference in the social entrepreneurship variable (t= 5.694, p < .05) and its sub-dimensions of risk taking (t= 4.876, p < .05), self-confidence (t= 5.572, p < .05) and personal creativity (t= 3.460, p > .05) according to the variable of having sufficient knowledge. In the social entrepreneurship latent variable and its sub-dimensions, it was determined that the averages of those who had sufficient knowledge were higher than those who did not have sufficient knowledge. The t-test results in Table 13 show that there is no significant difference in the sub-dimensions of sustainable development (t= 1.092, p > .05) and environment (t= .975, p > .05), economy (t= .862, p > .05), (t= .697, p > .05) and society (t= 1.002, p > .05).

CONCLUSION and DISCUSSION

According to the results shown in Table 2, individual innovativeness and risk taking, intellectual leadership and openness to experience sub-dimensions of university students were found at high level, while resistance to change sub-dimension was found at medium level. According to these results, it can be said that university students are highly innovative. These outcomes align with the research conducted by Pekel, Kaya, and Temur (2022), who assessed university students' individual levels of innovativeness. The study discovered that university students are highly inventive. Similarly, pre-service teachers in the Department of Computer Education Instructional Technology were found to be competent in the sub-dimensions of openness to experience, opinion leadership, risk taking, and resistance to change by Kılıçer (2011), who adapted the scale used in this study into Turkish. According to another result obtained in Table 2, as a result of the research, university students' perceptions of social entrepreneurship were found to be at a high level. These results are similar to the results of studies conducted by Koçak and Özdemir (2015), Aydın and Öner (2016), Armağan and Gürsoy (2017), Çavdar et al. (2018), Aydoğmuş (2019), Biçer and Başer (2019), Ermanonuk (2020) and Özbilen et al. (2020). The findings indicate that university students are aware of the challenges faced by disadvantaged individuals in their communities and are committed to advocating for solutions. They demonstrate a willingness to engage in efforts to address these issues. Similarly, it was determined that the sustainable development awareness variable of university students and the environment, economy, education and society sub-dimensions of this variable were at a very high level. Based on this result, it can be said that university students are aware of the fact that the world we live on is aging and that we will not be able to leave a livable world to future generations as a result of misuse if necessary measures are not taken. Çimen and Benzer (2019), Soysal (2016) and Demirbaş (2015), who

reached results that support the results reached in this study, concluded that pre-service teachers have positive attitudes towards sustainable development and that their awareness of sustainable development is at a high level. Similarly, Jati et al. (2019) and Örmeci Güney (2023) concluded in their research that university students' awareness of sustainable development is generally at a high level.

Table 3 demonstrates that there is no discernible gender difference in university students' perceptions of individual innovativeness or its sub-dimensions of risk-taking, resistance to change, idea leadership, and openness to experience. Therefore, it can be concluded that university students' opinions of their own innovativeness are unaffected by their gender. Similar findings were also reached by Demir and Demir (2023), Köse (2023), Bubou and Job (2022), Pekince and Aslan (2020), Campagnola (2017), Bitkin (2012), and Kılıçer (2011). Nevertheless, Güngör (2019), Yılmaz (2019), Yılmaz et al. (2014), and Klecker and Loadman (1999) reached the conclusion that the innovativeness levels of female participants were higher than those of male participants. According to another result reached in Table 3, it was determined that gender has no effect on the perceptions of university students on social entrepreneurship, social entrepreneurship and risk-taking and personal creativity sub-dimensions, but men have a higher level of self-confidence than women. This result is in line with the results of Nguyen et al. (2023), Cruz-Sandoval et al. (2023), Huezo-Ponce and Saiz-Álvarez (2020), Chairy (2011) that gender has no effect on the intention to become a social entrepreneur. The results of this study indicate that men tend to exhibit higher levels of self-confidence compared to women. This is potentially attributed to the fact that in most societies, men are afforded greater autonomy and freedom from their families than women. These findings align with the results reported by Hisrich et al. (2002) and Yetim (2002).

According to the results obtained in Table 4, it has been revealed that individual innovation perceptions and sustainable development awareness of university students do not show a significant difference according to age. In support of these results, Martin & Osberg (2017), Campagnola (2017), Kirby and Zwickle, (2021) and Rodriguez (2019) also concluded that the age of the participants had no effect on their perceptions of innovativeness. However, in some studies on the subject, it has been stated that the innovativeness levels of younger participants are relatively higher than those of older participants (Atlı & Mazman Akar, 2019; Çetin & Bülbül, 2017; Kılıçer, 2011; Rogers, 1995; Yapıcı & Kaya, 2020; Gifford ve Nilsson (2014), Markowitz et. al., 2012). According to another result reached in Table 4, it was concluded that there was no significant difference in the social entrepreneurship variable and the sub-dimensions of risk-taking and self-confidence in the social entrepreneurship perceptions of university students according to their age; however, in the sub-dimension of personal creativity, university students aged 30 and over had higher scores than university students aged 20-24. Based on this result, it can be said that students whose ages are higher than the others have more tendency to create social value. Yavuz and Yavuz (2017), Eratlı Şirin et al. (2018), Çermik and Şahin (2015) concluded that age has no effect on social entrepreneurship.

According to Table 5, it was determined that there was no discernible difference between university students' perceptions of individual innovativeness and the sub-dimensions of risk-taking, resistance to change, idea

leadership, and openness to experience based on whether they were enrolled in a faculty or college. Stated differently, university students' individual opinions of innovativeness are unaffected by the unit of study. It was seen in the same table that, while there was a significant difference between the perception levels of social entrepreneurship of university students and the faculties and colleges they studied in favour of students studying in colleges in the social entrepreneurship variable and self-confidence sub-dimension, it was determined that there was no significant difference in the sub-dimensions of risk-taking and personal creativity. It can be said that students studying in higher schools are more sensitive to social problems and have self-confidence that they will contribute to the solution of the problems. Similar to the results obtained in this study, Sarıtaş and Duran (2017) concluded that students studying in colleges exhibit more entrepreneurial characteristics than students studying in faculties. In the same table, in terms of sustainable development awareness, it was concluded that the environmental awareness of the students studying in colleges was at a higher level than the students studying in faculties.

Based on their grade point averages, university students' judgments of social entrepreneurship and awareness of sustainable development did not differ significantly, as shown by the results in Table 6. The sub-dimensions of risk-taking, resistance to change, openness to experience, and the individual innovativeness variable do not significantly differ in terms of perceptions of individual innovativeness; however, university students with a GPA (Grade Points Average) between 3.00 and 3.50 have been found to have higher average scores on the sub-dimension of opinion leadership than students with a GPA below 2.00. In this sub-dimension, which includes items such as "My friends often turn to me for advice or information," it can be stated that students with high GPAs define themselves as individuals who are consulted for ideas, capable of leadership, and creative. Bitkin (2012) and Civís et al. (2019) also reached the conclusion that, similar to the results obtained in this study, as the academic achievement levels of teacher candidates increase, their individual innovativeness levels generally also rise.

In Table 7, university students' perceptions of individual innovativeness and social entrepreneurship do not show a significant difference based on their mother's education level. Kartal et al. (2018), Terzi (2023), Klingebiel (2014), Yıldırım (2020), and Chairy (2011) have reached similar results. Eser (2018) concluded that students whose mothers are illiterate are less sensitive to sustainable development compared to other students.

In Table 8, it was concluded that there is no significant difference in university students' perceptions of individual innovativeness according to the variable of father's education level. According to this result, it can be said that the educational background of university students' parents does not have an impact on the individuals' innovativeness. This result is similar to the conclusion reached by Mülhim (2018), Kılıçer (2011), and Şen (2023). A significant difference has been found in the risk-taking dimension between university students' perceptions of social entrepreneurship and their fathers' educational background. It has been determined that the risk-taking perception scores of university students whose fathers are illiterate or primary school graduates are higher than the risk-taking perception scores of university students whose fathers are university graduates. In the study,

there was no significant difference found in the variable of social entrepreneurship and the sub-dimensions of self-confidence and personal creativity. Based on this result, it can be said that the father's education level does not have an effect on university students' self-confidence and personal creativity skills. This result is consistent with the findings of Yıldırım (2020) and Chairy (2011).

In Tables 9 and 10, no significant difference was found in the variables and sub-dimensions of individual innovation, social entrepreneurship, and sustainable development according to the family income status and mother's occupation of university students. In other words, the family's income level and the mother's profession do not affect university students' levels of innovation, social entrepreneurship, and sustainable development. Wang and Wong (2004), Dickel and Eckardt (2022), Çimen and Benzer (2019), and Tekin (2021) have also reached similar results in this study.On the other hand, when studies related to innovation are examined, it is observed that early adopters have higher levels of education, higher income, and higher professional status compared to non-adopters (Adcock et al., 1977; Feldman and Armstrong, 1975; LaBay and Kinnear, 1981; Rogers and Shoemaker, 1971; Kılıçer, 2011).

In Table 11, it was concluded that university students' perceptions of individual innovation and social entrepreneurship did not show a significant difference in the variables and sub-dimensions of individual innovation and social entrepreneurship according to the father's occupation. These results are in line with the findings of Ceylan (2019), Terzi (2023), Klingebiel (2014), Hutasuhut et al. (2023), Çermik (2015), and Dohmann (1970). The awareness of sustainable development among university students shows a significant difference according to their father's profession in the variables of sustainable development and the sub-dimensions of environment, economy, and society, but it does not show a difference in the education sub-dimension. In terms of sustainable development awareness, it has been found that university students whose fathers do not work, work in the private sector, or are retired have higher scores than university students whose fathers are self-employed. It has been concluded that university students whose fathers do not work have higher environmental awareness scores than those whose fathers are self-employed and retired. In economic awareness, it has been determined that those whose fathers do not work, those whose fathers work in the private sector, and those whose fathers are retired have higher scores than those whose fathers are self-employed. In terms of societal awareness, it has been determined that those whose fathers do not work, work in the public sector, work in the private sector, and those who are retired have higher scores than those whose fathers are self-employed.

In Table 12, it has been determined that university students' perceptions of individual innovativeness do not show a significant difference in the individual innovativeness variable and the sub-dimensions of resistance to change, opinion leadership, and openness to experience based on whether they receive education or not. However, there is a significant difference in favor of those who receive education in the risk-taking sub-dimension. Watley (2016) and Beydoğan (2023) have also reached results that support the findings of this study. When the table is examined in terms of social entrepreneurship, it was found that there is no significant difference in the sub-dimensions of risk-taking and personal creativity between university students' perceptions

of social entrepreneurship and whether or not they received related education, while those who received related education had higher scores in social entrepreneurship and self-confidence than others. Şahin (2023), in a manner somewhat similar to the results reached in this study, concluded that whether individuals receive training related to the subject does not affect their entrepreneurial tendencies. When we look at the table from the perspective of sustainable development, there is no significant difference in university students' awareness of sustainable development in terms of the sustainable development variable and its sub-dimensions of environment, economy, and society, depending on whether they have received education on the subject. However, a significant difference has been identified in the education sub-dimension. It has been determined that the education awareness scores of those who received training on the subject are higher than those who did not receive training. Karahan (2017) and Bradley et al. (2010) concluded that individuals who receive education on the subject have a higher level of environmental awareness compared to those who do not. Alkaabi et al. (2023) found a significant difference between university students who received education on sustainable development and those who did not, in a manner somewhat similar to the results reached in this study. Sadık (2013) concluded that whether or not teacher candidates received education on the subject did not result in significant differences in their attitudes towards environmental issues.

As seen in Table 13, university students' perceptions of individual innovativeness show a significant difference in the individual innovativeness variable and the sub-dimensions of opinion leadership and openness to experience, depending on whether they have sufficient knowledge about individual innovativeness. However, there is no significant difference in the sub-dimensions of risk-taking and resistance to change. Based on these results, it can be argued that the difference in the sub-dimensions of opinion leadership and openness to experience between individuals who believe they have sufficient knowledge on the subject and those who do not is due to the confidence created by the belief in having sufficient knowledge on the subject. Kaygısız and Sipahi (2019), reaching a somewhat similar conclusion, found that whether individuals possess knowledge on the subject or not does not have an impact on their perceptions of individual innovativeness. In the same table it has been determined that those who have sufficient knowledge of the latent variable of social entrepreneurship and its sub-dimensions have higher averages than those who do not have sufficient knowledge. Based on this result, it can be said that those who have sufficient knowledge about social entrepreneurship are more interested in social entrepreneurship activities that address social issues. Chui et al. (2023) and Urooj et al. (2023) support this conclusion by finding that university students possessing sufficient knowledge increases their social entrepreneurship skills. The results reached in table 12 show that there is no significant difference in sustainable development and its sub-dimensions according to whether university students have sufficient knowledge of sustainable development awareness. Tahkol (2023) found that students who believe they have sufficient knowledge about sustainable development scored higher than others in sustainable development and its sub-dimensions. Haartman et al. (2017) stated that whether university students receive education on sustainable development can affect their awareness of sustainable development.

SUGGESTIONS

Many university students have stated that they have not received any education on individual innovation, social entrepreneurship, and sustainable development. In this context, it can be ensured that these topics, which are currently only available as elective courses in certain departments, are added to the curriculum of all departments.

Collaboration protocols between non-governmental organizations and universities can be implemented to help university students better understand social issues and develop solutions. To raise awareness among university students about the efficient use of natural resources for sustainable development, scientific events such as panels, conferences, congresses, and symposiums can be organized, and students can be encouraged to participate. Funds that provide financial support can be established by public institutions, universities, and non-governmental organizations to enable university students to carry out individual innovation and social entrepreneurship projects. By bringing together renowned successful social entrepreneurs and university students, students' visions can be developed through various events and workshops. Having knowledge of individual innovation, social entrepreneurship, and sustainable development will also facilitate faculty members in guiding their students on these topics. In this context, faculty members can be encouraged to participate in activities such as conferences, symposiums, and congresses organized to raise awareness on these topics.

REFERENCES

Adcock Jr, W. O., Hirschman, E. C., & Goldstucker, J. L. (1977). Bank credit card users: an updated profile. *Advances in Consumer Research*, *4*(1), 236-241.

Aksu, A. (2022). *The effect of individual innovativeness on the ecological footprint awareness and green purchasing behaviors of X, Y, Z generation sports consumers.* (Thesis No. 762343). [Doctoral Thesis, Muğla Sıtkı Koçman University]. YÖK Thesis Center.

Armağan, E. & Gürsoy, Ö. (2017). The relationship between self-efficacy perception and social entrepreneurship tendency: A research on business students. *III. International Entrepreneurship, Employment and Career Congress. PressAcademia Procedia (PAP), 3,* 1043-1057. https://doi.org/10.17261/Pressacademia.2017.685

Atlı, Y. & Mazman Akar, S. G. (2019). Examining the relationship between classroom teachers' individual innovativeness and their tendencies towards the use of technology in the classroom. *Uşak University Journal of Educational Research, 5*(2), 1-31. *https://dergipark.org.tr/tr/pub/usakead/issue/50145/623538*

Aydın, E. & Öner, G. (2016). Examining the entrepreneurship levels of prospective social studies and classroom teachers. *Ahi Evran University Kırşehir Faculty of Education Journal (KEFAD), 17*(3), 497-515.

Aydoğmuş, M. (2019). Investigation of the effect of social entrepreneurship on professional attitude and self-efficacy perception: A research on prospective teachers. *Studies in Higher Education, 46*(7), 1462-1476. https://doi.org/10.1080/03075079.2019.1673719

Beydoğan, S. İ. (2023). *The relationship between innovative teacher characteristics and Web 2.0 tools usage competency according to socio-demographic characteristics of classroom teachers.* (Thesis No. 818650) [Master's Thesis, Dokuz Eylül University]. YÖK Thesis Center.

Biçer, B. & Başer, E. H. (2019). The power of pre-service teachers' empathic tendencies to predict social entrepreneurship traits and factors affecting empathic tendency and social entrepreneurship traits. *Anemon Muş Alparslan University Journal of Social Sciences*, *7*(5), 235-243. https://doi.org/10.18506/anemon.520986

Bitkin, A. (2012). *The relationship between teacher candidates' individual innovativeness levels and information acquisition skills* (Thesis No.326097) [Master's Thesis, Harran University]. YÖK Thesis Center.

Bowen, N. K., & Guo, S. (2011). *Structal equation modeling; Pocket guide to social work research methods.* (1st Ed.), Oxford Universty Press.

Bubou, M. G. & Job, G. C. (2022). Individual innovativeness, self-efficacy and e-learning readiness of students of Yenagoa study center, National Open University of Nigeria. *Journal of Research in Innovative Teaching & Learning, 15*(1), 2-22. https://doi.org/10.1108/JRIT-12-2019-0079

Büyüköztürk, Ş., Akgün, Ö. E., Demirel, F., Karadeniz, Ş., & Çakmak, E. K. (2017). Scientific research methods

Campagnola, M. (2017). *Examining the relationship between communication apprehension and individual innovativeness in managers* (Yayın No. 10684904) [Doctoral dissertation, Walden University]. ProQuest Dissertations & Theses Global.

Chairy, C. (2011). The effect of entrepreneurial characteristics, ethnicity, gender and parental occupation on students' entrepreneurial intentions. *Jurnal Manajemen Bisnis*, *1*(2).

Chui, C. H., Peng, S., Lai, V., Chan, C. H. & Fung, S. (2023). Enhancing social entrepreneurial competence amongst university students: a social entrepreneurship pedagogical model in Hong Kong. *Journal of Social Entrepreneurship, 1*(20). DOI: 10.1080/19420676.2023.2217427

Civís, M., Diaz-Gibsona, J., Lópeza, S., Moolenaar, N., Lópeza, S. & Moolenaar, N. (2019). Collaborative and innovative climates in pre-service teacher programs: The role of social capital. *International Journal of Educational Research, 98,* 224-236. https://doi.org/10.1016/j.ijer.2019.08.019

Cruz-Sandoval, M., Vázquez-Parra, J.C.; Alonso-Galicia, P.E.; Carlos-Arroyo, M. (2023). Perceived achievement of social entrepreneurship competency: the ınfluence of age, discipline, and gender among women in higher education. *Sustainability*, *15* (13), 9956. https://doi.org/10.3390/su15139956

Çavdar, O., Cumhur, F., Koç, Y. & Doymuş, K. (2018). Examining the social entrepreneurship characteristics of pre-service teachers in terms of various variables. *Anemon Muş Alparslan University Journal of Social Sciences*, *6*, 27-33. https://doi.org/10.18506/anemon.464006

Çermik, F. & Şahin, İ. F. (2015). Examining the social entrepreneurship characteristics of prospective social studies teachers in terms of various variables. *Current Research in Education*, *1*(2), 76-88.

Çetin, D. & Bülbül, T. (2017). Examining the relationship between school administrators' perceptions of technostress and individual innovativeness characteristics. *Abant İzzet Baysal University Journal of Faculty of Education,* 17(3), 1241-1264. https://doi.org/10.17240/aibuefd.2017.17.31178-338821

Çimen, H. & Benzer, S. (2019). Investigation of pre-service science and primary school teachers' attitudes towards sustainable environment. *Human and Human*, *6*(21), 525-542. https://doi.org/10.29224/insanveinsan.475471

Damnet, A., Sangnak, D. & Poo-Udom, A. (2023). Thailand's innovative agritourism in the post COVID-19 new normal: A new paradigm to achieve sustainable development goals. *Research in Globalization*, 100171. https://doi.org/10.1016/j.resglo.2023.100171

Demir, O., & Demir, M. (2023). Determining the relationship between classroom teachers' individual innovativeness and their attitudes towards learning. *Kalem Journal of Education and Human Sciences*, *13*(1), 83-104. https://doi.org/10.23863/kalem.2021.216

Demirbaş, Ç. Ö. (2015). Sustainable development awareness levels of prospective teachers. *Marmara Journal of Geography*, *31*, 300-316. https://doi.org/ 10.14781/mcd.09811

Eratlı Şirin, Y., Bilir F. P., & Öz, G. (2018). Social entrepreneurship tendencies of university students: The case of physical education and sports college. *Gaziantep University Journal of Sport Sciences*, *3*(3), 35-47. https://doi.org/10.31680/gaunjss.439956

Ermanonuk, F. E. (2020). *Investigation of the relationship between university students' social entrepreneurship antecedents and emotional intelligence levels according to various variables* (Thesis no: 656316) [Master's Thesis, Bursa Technical University]. YÖK Thesis Center.

Eser, M. (2018). Vocational school students' attitudes towards sustainable development: The case of Nazilli vocational college. *Kesit Academy Journal*, *17*, 402-418. https://doi.org/10.18020/kesit.1567

Feldman, L. P. & Armstrong, G. M. (1975). Identifying Buyers of a Major Automotive Innovation: The introduction of the rotary-engined Mazda offers a unique opportunity to study consumer innovators. *Journal of Marketing*, *39*(1), 47-53. https://doi.org/10.1177/002224297503900108

Filiz, O. (2018). *The effect of pre-service teachers' experiences in transformed learning environments on their self-efficacy towards educational technology standards, innovativeness levels and online engagement.* (Dissertation No. 532944). [Doctoral Dissertation, Anadolu University]. YÖK Thesis Center.

George, D. & Mallery, P. (2011). *SPSS for windows step by step: A simple study guide and reference, 17.0 update, 10/e*. Pearson Education India.

Gifford, R., Nilsson, A. (2014). Personal and social factors that influence pro-environmental concern and behaviour: A review. *International Journal of Psychology, 49,* 141–157. https://doi.org/10.1002/ijop.12034

Haartman, V. R., Sammalisto, K., Lozano, R. & Blomqvist, P. (2017). A longitudinal comparison of sustainability learning between men and women in engineering and nursing programmes. *Sustainability,* 9, 1464. https://doi.org/ 10.3390/su9081464

Hisrich, R. D., Peters, M. P. & Shepherd, D. A. (2017). *Entrepreneurship*. McGraw-Hill.

Huezo-Ponce, L., Saiz-Álvarez, J.M. (2020). Education, Gender, and Entrepreneurial Intention: The Case of Mexico. Leitão, J., Nunes, A., Pereira, D., Ramadani, V. (Eds.) Intrapreneurship and sustainable human

capital. *Studies on Entrepreneurship, Structural Change and Industrial Dynamics* içinde. Springer. https://doi.org/10.1007/978-3-030-49410-0_9

Jati, H. F., Darsono, S. N. A. C., Hermawan, T., Yudhi, W. A. S., & Rahman, F. F. (2019). Awareness and Knowledge Assessment of Sustainable Development Goals Among University Students. *Jurnal Ekonomi & Studi Pembangunan*, *20*(2), 163-175. https://doi.org/10.18196/jesp.20.2.5022

Karasar, N. (2005). *Scientific Research Method*. Nobel Publishing.

Kargın, M., Gökbunar, R., & Aktaş, H. (2018). Social entrepreneurship in universities: opportunities and recommendations. *Journal of Management and Economics*, *25*(1), 155-170. https://doi.org/10.18657/yonveek.356668

Kartal, Y. A., Özsoy, A., & Üner, K. (2018). Determination of individual innovation profiles of midwifery students and factors affecting. *International Journal of Health Sciences & Research (www.ijhsr.org*) 8 (4), 104-109.

Kaygısız, E. and Sipahi, H. (2019). Investigation of the relationship between individual innovation and industry 4.0 knowledge levels of Generation Y university students, *Gaziantep University Journal of Social Sciences, 18*(2), 922-936. https://doi.org/10.21547/jss.442879

Kılıçer, K. and Odabaşı, H. F. (2010). Individual innovativeness scale (IIS): Turkish adaptation, validity and reliability study. *Hacettepe University Journal of Faculty of Education*, *38,* 150-164.

Kirby, C. K. & Zwickle, A. (2021). Sustainability behaviors, attitudes, and knowledge: Comparing university students and the general public. *Journal of Environmental Studies and Sciences, 11*(4), 639–647. https://doi.org/10.1007/s13412-021-00717-x

Klingebiel, K. L. (2014). The influence of parents' profession and education on the innovativeness of their children. *5th IBA Bachelor Thesis Conference,* July 2nd, 2015, Enschede, The Netherlands.

Koçak, S., & Özdemir, M. (2015). The role of social entrepreneurship on pre-service teachers' attitudes towards school administration. *Mersin University Journal of Faculty of Education*, *11*(3), 631-645. https://doi.org/10.17860/efd.55701

Köse, A. (2023). *Investigation of technology usage attitudes and individual innovativeness levels of teachers working in secondary schools in Kyrgyzstan.* Sonçağ Publications.

Labay, D. G. & Kinnear, T. C. (1981). Exploring the consumer decision process in the adoption of solar energy systems. *Journal of Consumer Research*, *8*(3) https://doi.org/10.1086/208865

Marangoz, M. (2016). *Current Issues and Applications in Entrepreneurship*. Beta Basım Yayım Dağıtım A.Ş.

Markowitz, E. M., Goldberg, L. R., Ashton, M. C., & Lee, K. (2012). Profiling the "pro-environmental individual": A personality perspective. *Journal of personality*, *80*(1), 81-111. https://doi.org/10.1111/j.1467-6494.2011.00721.x

Martin, R. L. & Osberg, S. (2007). Social Entrepreneurship: The Case for Definition. *Stanford Social Innovation Review*, *5*(2), 28-39.

Mülhim, M. A. (2018). *Investigation of physical education and sports college students' individual innovativeness levels and lifelong learning tendencies: The case of Bartın University* (Master's thesis, Bartın University, Institute of Educational Sciences).

Nguyen, A. L. T., Lam, B. Q., Nguyen, A. Q. D., & Pham, M. (2023). Gender roles in entrepreneurship education to social entrepreneurial intentions in Vietnam. *Journal of Eastern European and Central Asian Research, 10*(5), 773-787. https://doi.org/10.15549/jeecar.v10i5.1316

Örmeci Güney, Ö. (2023). Differences of university students' awareness of sustainable development according to their demographic characteristics. *Fiscao economia*, *7*(1), 911-937. https://doi.org/10.25 295/fsecon. 1212669

Özbilen, F. M., Canbulat, T. & Çekiç, O. (2020). Evaluation of self-efficacy and social entrepreneurship levels of prospective primary school teachers. *Dokuz Eylül University Buca Education Faculty Journal,* (50), 274-297.

Pekince, H. ve Aslan, H. (2020). İlk ve acil yardım programı öğrencilerinde bireysel yenilikçiliğin eleştirel düşünme eğilimine etkisi. Annals*of Medical Research, 27*(12), 3123-3129. https://doi.org/10.5455 /annalsmedres. 2020.07.731

Rodriguez, J. G. (2019). *Exploring the relationship between the followers' perceptions of leaders' authentic leadership and emotional intelligence and effects on individual innovativeness* (Yayın No. 22589875). [Doktora Tezi, Our Lady of the Lake University]. https://www.proquest.com/dissertations-theses/exploring-relationship-between-followers/docview/2285152347/se-2

Rogers, E. M. (1995). *Diffusion of innovations (Fifth Edition).* Free Press.

Rogers, E. M., & Shoemaker, F. F. (1971). *Communication of Innovations; A Cross-Cultural Approach*. The Free Press.

Sarıtaş, A. and Duran, G. (2017). A research on the determination of entrepreneurship tendencies of university students. *Muş Alparslan University Journal of Social Sciences. 5*(1), 147-165. https://doi.org/10.18506/anemon.285116

Seçer, İ. (2015). *Practical data analysis with SPSS and LISREL*. Anı Publishing.

Soysal, N. (2016). *Pre-service classroom teachers' perceived competencies on education for sustainable development.* (Thesis No. 439215) [Doctoral Dissertation, Middle East Technical University]. YÖK Thesis Center.

Şencan, H. (2005). *Reliability and validity in social and behavioral measurements.* Seçkin Publishing.

Pekel, A., Kaya, A., & Temur, C. S. (2022). The relationship between individual innovativeness levels and lifelong learning tendencies of students. *Synesis, 14*(2), 1-14.

Tabachnick, B.G. & Fidell, L.S. (2013). *Using multivariate statistics (Sixth Edition).* Pearson.

Tahkol, D. (2023). *Sustainable development attitudes of nursing students and their level of knowledge about climate change* (Thesis No. 785734) [Master's Thesis, Dokuz Eylül University]. YÖK Thesis Center.

Tarhan, N. (2018). *The effect of motivational determination and individual innovativeness of managers in the pharmaceutical industry on business performance* (Thesis no: 518691) [Doctoral Dissertation, Ankara University]. YÖK Thesis Center.

Terzi, Y. L. (2023). *Investigation of the relationship between middle school students' innovative thinking levels and their self-efficacy beliefs towards science learning* (Thesis No. 826069) [Master's Thesis, Aydın Adnan Menderes University]. YÖK Thesis Center.

Thirlwall, A. P. (2014). Development and economic growth. V. Desai, R. B. Potter (eds.). *The companion to development studies* içinde, 25-28. Routlage (Taylor &Francis Group).

UNEP, *United Nations Environment Programme (2020).* https://www.unenvironment. org/search/node?keys=sustainable+development

Urooj, S., Afzal, H. A. & Shehzad, S. (2023). Identifying the enablers of social entrepreneurship among university students: mediating role of social entrepreneurial intentions. *Global Management Journal for Academic & Corporate Studies (GMJACS),13*(1), 1-14. https://doi.org/10.59263 /gmjacs.13.01.2023.283

Watley, B. E. (2016). *Effects of innovation training on innovative work behaviors* (Yayın No. 10131723) [Doktora Tezi, Regent University School of Business & Leadership]. ProQuest Dissertations & Theses Global. https://www.proquest.com/docview/1820072487/52BC0049F6E34A76PQ/1?accountid=62760&sourcetype=Dissertations%20&%20Theses

Yapıcı, İ. Ü. & Kaya, S. (2020). Investigation of individual innovativeness levels of biology teachers (Diyarbakır province example). *Electronic Journal of Social Sciences*, *19*(73), 348-362. www.esosder.org

Yavuz, A. and Yavuz, H. İ. (2017). Determination of entrepreneurship tendencies: A research on Tashkent Vocational School students. *Mehmet Akif Ersoy University Journal of Institute of Social Sciences*, *9*(21), 89-100. https://doi.org/10. 20875/makusobed.307062

Yetim, N. (2002). Women entrepreneurs as social capital: The case of Mersin. *Journal of Aegean Academic Overview*, *2*(1), 79-92.

Yıldırım, D. (2020). *Sosyal bilgiler öğretmenmeni adayilerinin girişimcilik düzeylerinin determination.* (Thesis No. 630507) [Master's Thesis, Gazi University] YÖK Thesis Center.

Yuan, F., & Woodman, R. W. (2010). Innovative behavior in the workplace: The role of performance and image outcome expectations. *Academy of management journal*, *53*(2), 323-342. https://doi.org/10.5465/amj.2010.49388995.

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