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Examining the Relationship Between Individual Innovativeness and Positive Future Expectation Levels of Physical Education Teacher Candidates

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Abstract

This study aimed to examine the effect of teacher candidates' individual innovativeness levels on their positive future expectations. A total of 412 teacher candidates, 194 women and 218 men, studying at sports science faculties of universities in Ankara, participated in the research. “Personal Information Form”, “Individual Innovativeness Scale” and “Positive Future Expectation Scale” were used in the data collection process. During the data analysis phase, Independent Samples T test, One Way ANOVA analysis, Pearson correlation analysis and Multiple Linear Regression Analysis were used in the SPSS 25.0 program. The research found that the individual innovativeness levels and positive future expectations of the teacher candidates were above the medium level. It was found that the individual innovativeness levels and positive expectations of teacher candidates differ according to the type of university (public, private) and the class they study in ($p < 0.05$). It was observed that there was a positive relationship between the individual innovativeness level and positive future expectation among the teacher candidates participating in the research ($p<0.05$), and it was also determined that the individual innovativeness level positively affected the positive future expectation (pz0.05). As a result, it can be said that the high level of individual innovativeness in teacher candidates is a factor that increases positive future expectations.

Keywords: Individual innovation, Positive future expectations, University students

Introduction

It is seen that many innovations have occurred in the current century, especially in the scientific and technological fields (Johnson et al., 2006: 135). When considered from a conceptual perspective, innovation is defined as "the use of people's ideas, knowledge or applications in the development of a new service or product, thus creating new products and services" (Yalçınkaya, 2010: 373). In other words, innovation is defined as "pre-planned change". The basis of innovation is usually the desire to constantly get better and further. In a specific field, innovation can occur not only in quantity but also in quality (Özdemir, 2013: 56). The phenomenon of innovation has an essentail place in economic growth and sustainable development (Johnson, 2008: 146; Fagerberg et al., 2009: 1). When considered from an organizational perspective, the phenomenon of innovation is considered an important element in terms of efficiency, competitive advantage and organizational performance (Wadho and Chauhdry, 2018: 1283; Kijkasiwat and Phuensane, 2020: 1). This situation has paved the way for an increase in research on the concept of innovation in recent years. Studies indicate that carrying out the innovation process in a healthy way is the key to success in innovation. In order to carry out the innovation process in a healthy way, conscious and systematic steps must be taken, and developments in this process must be approached from a strategic perspective (Öğüt et al., 2007: 163). Efforts to understand innovation and research how innovation will take place also contribute to the effectiveness of the innovation process (Kılıçer, 2008: 212).

People are at the center of innovation. People's acceptance of innovation is defined as "Individual innovation" (Korucu and Olpak, 2015: 115). Individual innovativeness characteristics emerge in five different ways. These; traditionalists, innovators, pioneers, questioners and skeptics. Innovators; They are people who have a high tendency to try new ideas, like to take risks and have a vision. Pioneers; They are people who are especially technology-oriented and try to enlighten the society about innovations. Inquisitors; They are generally individuals who have a low tendency to take risks and are cautious about innovation. Skeptics; They generally have a structure that approaches innovations with suspicion and is hesitant about innovation. Traditionalists, on the other hand, consist of people who are both prejudiced against change and the last to adopt innovations (Rogers, 2013: 1). Individual innovativeness level may vary depending on the individual characteristics of people. While some people have high levels of individual innovativeness due to their nature, it is seen that some people have low levels of individual innovativeness (Ertuğ and Kaya, 2017: 196). The level of individual innovation is among the factors that directly affect a person's daily life and business life. As the level of individual innovation increases, the individual's work performance, speed of adaptation to innovations and technological developments, and motivation level in daily life and business life increase (Tarhan and Şar, 2021: 10).

It is an important issue that the level of individual innovation is high, especially among young people, as it positively affects the business life as well as the daily life of the individual. As it is known, many students studying at university today experience unemployment concerns due to limited employment opportunities (Harat and Taher, 2023: 232; Surat and Ceran, 2020: 145). In addition, many studies conducted on young people indicate that young people have low positive future expectations and are worried about their future (Mamani-Benito et al., 2023: 1; Ogurlu, 2016: 4). It is seen that studies on positive future expectations are generally conducted on university students (Manap-Davras and Alili, 2019: 40; Şanlı and Saraçlı, 2015: 25). The basis for this is that the university years are one of the most important stages before starting business life. In addition, positive future expectations positively affect psychological

health in university students. These factors have contributed to the increase in studies addressing positive future expectations in university students (Ehtiyar et al., 2017: 251). Positive future expectations of university students are affected by the education they receive, as well as the social support provided by the family in their career choice and their expectations of making a career appropriate to their abilities (Taş and Özmen, 2019: 744). Students' self-confidence levels and their personality traits are among the other factors that affect their positive future expectations (Şanlı and Saraçlı, 2015: 25).

When the information in the literature is evaluated, it is seen that the level of individual innovation is effective in all areas of human life. Especially in business life, the level of individual innovation directly affects professional attitudes, behaviors and career processes. Studies in the literature also state that innovative attitudes in professional life affect attitudes and behaviors related to business life (Park et al., 2016: 274; Akkoç et al., 2011: 83; Cheng et al., 2010: 459). At this point, it can be said that a high level of individual innovativeness in teacher candidates will contribute to high positive future expectations. However, as a result of the literature review, it was observed that there were not enough studies examining the effect of individual innovativeness level on positive future expectations in teacher candidates. In this context, this study aimed to examine the effect of individual innovativeness on positive future expectations in teacher candidates.

Material and Method

This study, used the "relational screening model" to determine the relationship between dependent variables. The research population consists of teacher candidates studying at sports science faculties of private universities and state universities in Ankara. The sample group of the research consisted of 412 physical education teacher candidates, 194 women and 218 men, studying at the sports science faculties of universities in Ankara. A simple random sample selection method was used to determine the teacher candidates in the sample group.

The personal information form prepared by the researcher was used to determine the demographic characteristics of the teacher candidates participating in the research. There are a total of four items in the personal information form. With these items, it was aimed to obtain findings regarding the type of university where teacher candidates studied, the distribution by gender, the grade level of education and the age groups of the students. "Individual Innovativeness Scale", developed by Hurt et al. (1977: 58) and whose Turkish validity and reliability study was conducted by Kılıçer and Odabaşı (2010: 150), was used to determine the individual innovativeness levels of the teacher candidates participating in the research. In the study of adapting the scale to Turkish, the internal consistency coefficient was determined as 0.82. The scale consists of a total of 20 items and four sub-dimensions. The resistance to change sub-dimension consists of a total of eight items, the opinion leadership sub-dimension consists of five items, the openness to experience sub-dimension consists of a total of five items, and the risk-taking sub-dimension consists of two items. A high score on the scale indicates that the participant's individual innovativeness level is also high. In the study, the "Positive Future Expectation Scale" developed by İmamoğlu (2001: 1) was used to determine the positive future expectations of teacher candidates. The scale structure, consisting of a total of 20 items, is of the 5-point Likert type. Therefore, the responses to the items on the scale are graded between strongly disagree (1 point) and strongly agree (5 points). During the development phase of the scale, the researcher reported the internal consistency coefficient of the scale as 0.85.

SPSS 25.0 program was used to analyze the research data. As a result of the reliability analysis applied to the scale data, parametric analyzes were used since it was determined that

Cronbach's Alpha values varied between 0.65 and 0.81, and skewness and kurtosis values were in accordance with normal distribution. While Independent Samples T test was used for scale scores according to university type, gender and class variables, One Way ANOVA analysis was used to compare scale scores according to age group. While Pearson correlation analysis was used to examine the relationship between the scales, Multiple Linear Regression Analysis was used to examine the effect of individual innovativeness on positive future expectations.

Findings

Table 1. Frequency and percentage distributions regarding the demographic information of the participants

Variable	Category	f	%
University type	Public	215	52,2
	Private	197	47,8
Gender	Female	194	47,1
	Male	218	52,9
Age group	“22-23 age	167	40,5
	24-25 ge	190	46,1
	25+ age	55	13,3
Sınıf	3.grade	204	49,5
	4.grade	208	50,5

When the table is examined, it can be seen that 52.2% of the students participating in the research were educated at a state university, 47.8% were educated at a private university, 47.1% were female, 52.9% were male, 40.5% were 22-years-old. In the 23 age group, 46.1% are in the 24.25 age group, 13.3% are in the 25+ age group, 49.5% are 3rd grade students, 50.5% are 4th grade students. .

Table 2. Frequency and percentage distributions of participants' individual innovation categories

Variable	Category	f	%
Individual innovation	Innovator	8	1,9
	Pioneer	85	20,6
	Questioner	279	67,7
	Skeptic	40	9,7
	Traditionalist	-	-

When the table is examined, it is seen that 1.9% of the participants are in the innovative category, 20.6% are in the pioneer category, 67.7% are in the questioning category, and 9.7% are in the skeptical category.

Table 3. Descriptive statistics for scale scores

Scale sub-dimensions	N	X±SS	α	Distortion	Flatness
Resistance to change	412	3,18±0,68	0,77	0,46	0,59
Leadership for idea	412	3,98±0,55	0,65	-0,01	-0,25
Openness to experience	412	4,09±0,54	0,78	-0,95	1,35
Risk taking	412	3,47±0,89	0,74	-0,24	-0,39
Positive future expectation	412	4,05±0,64	0,81	-0,51	0,19

When the table is examined, it is seen that the participants' levels of opinion leadership, openness to experience and risk taking are above the medium level, and their resistance to change levels are at the medium level. The positive future expectations of the participants are above the medium level.

Table 4. Comparison of individual innovativeness and positive future expectations according to demographic variables

		Resistance to change	Leadership of idea	Openness to experience	Risk taking	Positive future expectation
		X±SS	**X±SS**	**X±SS**	**X±SS**	**X±SS**
University type						
Public	215	3,19±0,58	3,92±0,54	4,03±0,54	3,35±0,86	3,97±0,64
Private	197	3,16±0,77	4,05±0,56	4,16±0,53	3,60±0,90	4,13±0,64
t/p		t=,455 p=,650	t=-2,491 p=,013*	t=-2,597 p=,010*	t=-2,936 p=,004**	t=-2,618 p=,009**
Gender						
Female	194	3,12±0,70	3,94±0,54	4,15±0,42	3,49±0,89	4,08±0,64
Male	218	3,24±0,65	4,02±0,57	4,05±0,62	3,44±0,89	4,02±0,65
t/p		t=-1,818 p=,070	t=-1,468 p=,143	t=1,866 p=,063	t=,568 p=,570	t=,872 p=,384
Age group						
22-23 age	167	3,24±0,61	3,99±0,59	4,10±0,51	3,39±0,95	4,12±0,61

24-25 age	190	3,18±0,72	3,94±0,51	4,06±0,56	3,53±0,85	3,99±0,68
25+ age	55	3,01±0,73	4,12±0,55	4,19±0,52	3,51±0,82	4,03±0,57
F/p		F=2,320 p=,100	F=2,433 p=,089	F=1,292 p=,276	F=1,125 p=,326	F=2,097 p=,124
Grade						
3.grade	204	3,04±0,55	3,96±0,55	4,11±0,51	3,43±0,93	4,17±0,66
4.grade	208	3,32±0,76	4,00±0,55	4,08±0,57	3,50±0,85	3,92±0,60
t/p		t=-4,357 p=,000***	t=-,720 p=,472	t=,584 p=,559	t=-,838 p=,402	t=4,030 p=,000***

**p<0,01; t: Independent Samples T-Test; F: One Way ANOVA

When the table is examined, it is seen that the individual innovativeness levels and positive future expectation levels of the participants do not differ statistically significantly (p>0.05) according to their gender and age groups. The levels of resistance to change did not differ statistically significantly according to the type of university studied (p>0.05), but the opinion leadership, openness to experience, risk taking and positive future expectations of students studying at a private university were statistically significantly higher than those of students studying at a state university. (p<0.05). It was found that the levels of opinion leadership, openness to experience and risk taking did not differ statistically significantly according to the grades received (p>0.05), but the level of resistance to change of the students educated in the 4th grade was statistically significantly higher than the students educated in the 3rd grade (p<0.05), whereas the positive future expectation level of students studying in the 3rd grade is statistically significantly higher than that of students studying in the 4th grade (p<0.05).

Table 5. Pearson correlation analysis to examine the relationship between individual innovativeness and positive future expectations

		1	**2**	**3**	**4**	**5**
1. Resistance to change	r	-				
	p					
2. Leadership for idea	r	,175***	-			
	p	,000				
3. Openness to experience	r	,146**	,309***	-		
	p	,003	,000			
4. Risk taking	r	,307***	,176***	,241***	-	
	p	,000	,000	,000		
5. Positive future	r	,139**	,278***	,450***	,287***	-

expectation	p	,005	,000	,000	,000

***p<0,001; **p<0,01

When the table examined, it is seen that there is a positive and low level relationship between the participants' level of resistance to change regarding individual innovation and positive future expectations (r=,139; p<0,01).

It is seen that there are positive and sub-medium level relationships between the participants' leadership for idea (r=,278; p<0,001) and risk taking (r=,287; p<0,001) regarding individual innovation and positive future expectations (p<0.001), besides, there is a positive and medium level relationships between the participants' openness to experience regarding individual innovation and positive future expectations (r=,450; p<0,001).

Table 6. Multiple linear regression analysis to examine the effect of individual innovativeness on positive future expectations

Variable	B	standard error	β	t	p
Systematic	1,177	,268		4,398	,000***
Resistance to change	,009	,043	,010	,212	,832
Leadership for idea	,156	,053	,134	2,929	,004**
Openness to experience	,438	,055	,366	7,946	,000***
Risk taking	,124	,033	,172	3,722	,000***
r=,502; r^2=,245; F(4, 407)=34,345; p=,000***					

***p<0,001; **p<0,01

When the table is examined, it is seen that the variance explained by the level of individual innovativeness on positive future expectations is 24.5% and the effect of individual innovativeness on positive future expectations is statistically significant (r2=.245; p<0.001). When the sub-dimensions are examined, the effect of the resistance to change sub-dimension is not significant, opinion leadership (β=.134; p<0.01), openness to experience (β=.366; p<0.001) and risk taking (β=.172; p<0.01). It is seen that the effect of sub-dimensions (0.001) is significant.

Discussion and Conclusion

When the findings regarding the individual innovativeness levels of teacher candidates were examined in this study, it was found that 67.7% of the students were in the questioning category and 20.6% were in the pioneer category. It was observed that the proportion of students in the innovative, traditionalist and questioning categories was low. In studies conducted on different samples in the literature, it has been reported that the individual innovativeness level of university students and teacher candidates is generally at medium and high levels (Işık and Türkmendağ, 2016: 70; Lee et al., 2019: 1). In a study parallel to the findings obtained in the research, it was aimed to examine the individual innovation level of university students, and in the said study, it was found that 49.6% of the students were in the questioning category and 3.4% were in the pioneer category (Mülhim, 2018: 6). It can be said that the inconsistencies between the study results are due to the fact that the studies were

conducted on groups of students with different socio-cultural characteristics.

It was found that the individual innovativeness levels of the teacher candidates participating in the research differed depending on the type of university they studied at. It has been observed that the opinion leadership, openness to experience, risk taking and positive future expectations of students studying at a private university are at higher levels than students studying at a state university. When the studies in the literature were examined, it was observed that academic studies examining the individual innovation levels of students according to the type of university they studied were limited. In this study, it can be thought that the reason for the significant difference in individual innovation level in favor of private university students lies in the fact that private university students generally study at universities and departments suitable to their abilities.

Within the scope of the research, it was observed that the individual innovativeness level of teacher candidates did not differ according to their gender. In some studies conducted in this field in the literature, it has been reported that the gender variable has a significant effect on the level of individual innovation (Ilie et al., 2005: 13; Ferreras-Garcia et al., 2021: 1). In some studies, it was found that the level of individual innovation was high in favor of women, and in some studies it was found to be high in favor of male students (Baltacı and Metin, 2021: 586; Yılmaz et al., 2014: 259; Solmaz, 2019: 48). There are also research findings revealing that the individual innovativeness levels of male and female university students do not differ according to the gender variable (Korucu and Olpak, 2015: 122). Within the scope of this research, it can be thought that the reason why the individual innovativeness levels of teacher candidates do not differ significantly according to their gender is that male and female students were raised in similar socio-cultural regions.

It was observed that the individual innovativeness levels of the teacher candidates participating in this study did not differ significantly according to their age groups. The main reason for this may be that the students who comprise the sample group are in similar developmental periods in terms of their age groups. In a similar study in which university students participated, it was stated that students' individual innovativeness levels did not differ according to age (Baltacı and Metin, 2021: 586). In another study that is compatible with the research results, it was found that the innovative attitude level of physical education and sports teachers did not differ according to the age group variable (Yalvuç, 2019: 83). On the other hand, there are research findings that reveal that the level of individual innovation in university students increases significantly in parallel with the increase in age (Mülhim, 2018: 87). It can be said that the reason for the similarity between the research results lies in the fact that the studies were conducted on students studying in departments with different characteristics and having different academic equipment. In a study supporting this view, it was found that individual innovation attitudes of teacher candidates differ depending on the department they study (Işık and Türkmendağ, 2016: 83).

Within the scope of the research, it was found that there were differences in the resistance to change sub-dimension of individual innovativeness levels of teacher candidates when considered according to the grade level they studied. When the findings were evaluated, it was determined that the level of resistance to change of students studying in the 4th grade was statistically significantly higher than that of students studying in the 3rd grade. It can be thought that the basis of this finding lies in the fact that senior university students are at the beginning of their careers and therefore do not want to experience serious changes in their lives. In the literature, it has been reported in studies conducted on university students studying in different departments on this subject that the level of individual innovation varies

according to what the students study (Mülhim, 2018: 73; Korucu and Olpak, 2015: 122).

This study found that the positive future expectations of teacher candidates were above the medium level. In this context, it can be said that university students are generally hopeful about the future. In the literature, studies conducted in this field on students studying at different universities in Turkey have reported that students' positive future expectations are not at a high level (Tuncer and Tanaş, 2020: 1697; Tuncer, 2011: 942). In this context, it can be said that the results obtained in this study are generally compatible with the literature.

It was found that the positive future expectations of the teacher candidates participating in this research differed depending on the type of university they studied at. When the results obtained were evaluated, it was observed that students studying at private universities had higher positive future expectations compared to students studying at state universities. It is seen that the studies in the literature comparing the future expectations of students according to the type of university they study in are limited. In research conducted on this subject, it is generally emphasized that the variables of the department studied and liking the department rather than the type of university are decisive on positive future expectations (Dikmen, 2021: 731). In this study, it can be said that private university students' level of studying in the department they want is higher than state university students, which positively affects their future expectations.

It was found that the positive future expectations of the teacher candidates included in the research did not differ according to the gender variable. Research findings conducted on different sample groups also show that the gender variable is not a determinant of positive future expectations in university students (Akyol et al., 2018: 659; Derelioğlu, 2023: 801). In a study conducted on university students and teacher candidates on this subject in the literature, it was aimed to determine the positive future expectations of the participants according to demographic variables. The relevant study reported that students' positive future expectations did not differ according to the gender variable (Tuncer and Tanaş, 2020: 1698). Dikmen (2021: 731), in a similar study he conducted on this subject, stated that positive future expectations of university students did not differ according to their gender.

It was determined that the positive future expectations of the teacher candidates who participated in this study did not differ according to the age group variable. The main reason for this result can be shown that students' professional plans, knowledge levels about employment opportunities and future plans are similar across age groups. In another study, which is parallel to the findings obtained according to the age group variable, it was found that the positive future expectations of university students did not differ significantly according to age groups (Tuncer and Tanaş, 2020: 1699). In a different study in which students in various university departments participated, it was stated that the positive future expectations of the participants did not differ according to their age groups (Dikmen, 2021: 731).

This study found that the positive future expectations of teacher candidates differ depending on the grade they study in. According to the results, it was found that the positive future expectation level of students studying in the 3rd grade was statistically higher than that of students studying in the 4th grade. Similar research results on different sample groups in the literature also show that positive future expectations differ according to the class variable. Tuncer and Tanaş (2020: 1698) stated in their study on this subject that positive future expectations differ among university students in the first and second grades. In the study in question, it was reported that positive future expectations were higher in first-year students compared to second-year students. In the study conducted by Dikmen (2021: 731) on

university students in different departments, it was found that students' positive future expectations differ depending on the grade level of education.

In the study, it was found that the relationship between teacher candidates' individual innovativeness levels and positive future expectations was significant and positive. Similarly, it was observed that there were positive significant relationships between individual innovativeness sub-dimensions and positive future expectations. According to the results obtained from the regression analysis, it was concluded that the individual innovativeness level explained 24.5% of the total variance in positive future expectations. In this context, it has been concluded that the high level of individual innovation of university students significantly affects their positive future expectations. It can be thought that the basis for this result lies in the fact that as university students' individual innovativeness level increases, they experience less anxiety about their professional careers, which contributes to a more hopeful outlook on the future. In a study supporting this view, it was found that as the level of individual innovation in university students increases, their attitudes towards their profession are shaped positively (Baltacı and Metin, 2021: 578). In some studies conducted on this subject, it is stated that the level of individual innovation positively affects the perception of professional skills and competence, and this contributes to positive future expectations (Çuhadar et al., 2013: 797).

As a result, in this study where the relationship between individual innovativeness level and positive future expectation in physical education teacher candidates was examined, it was found that there was a significant relationship between the dependent variables, and it was also determined that the individual innovativeness level positively affected the positive future expectation. When examined in the light of demographic variables, it was found that the individual innovativeness levels of teacher candidates differed according to the type of university they were studying in (public university or private university) and the grade level, whereas the individual innovativeness level did not differ according to age and gender variables. It has been concluded that the positive future expectations of teacher candidates differ only according to the type of university they study in and the classes the students study in.

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