# The Examination of Relationship Between Lifelong Learning Trends of School Administrators and Teachers, and Their Innovative and Entrepreneurial Behavior Levels

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**Abstract**

The aim of this study is to examine lifelong learning tendencies of school administrators and teachers and their innovative and entrepreneurial behavior levels in accordance with many variables (gender, task type, and branch) and to determine the relationship between the lifelong learning tendencies of administrators and teachers, and their innovative and entrepreneurial behavior levels. The study is a quantitative one and performed by means of a correlational research design model. The sample of the study is composed of 608 school administrators and teachers who work in Sakarya province during the 2017-2018 school year and voluntarily participate in the study. The research data were obtained through "Lifelong Learning Tendency Scale" developed by Gür Erdoğan and Arsal (2016) and adapted to Turkish by Çalışkan, Akkoç and Turunç (2011), "Innovative Behavior Scale" developed by Scott and Bruce (1994) and "Entrepreneurial Behavior Scale" developed by Zampetakis (2009). As a result of the research, it is revealed that there is a significant, positive, and moderate relation between lifelong learning tendencies of school administrators and teachers, and their innovative behavior and entrepreneurial behavior levels. In this sense, in-service trainings, applied activities, project studies for entrepreneurial and innovative behavioral skills that support lifelong learning skills of school administrators and teachers can be carried out and the effectiveness of the programs prepared in this direction can be evaluated.

**Keywords:** Lifelong Learning, Entrepreneurial Behavior, Innovative Behavior, School Administrators, Teacher.

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## INTRODUCTION

Rapidly advancing technology, global and competitive environments in the world, the new production paradigm requires individuals to be open to new information for life, but they also require them to be innovative and entrepreneurial individuals who can transmit the information obtained. Today, it is inevitable to adapt quickly to changes and innovations, and lifelong learning, innovative and entrepreneurial individuals contribute to increasing the social welfare, solving the employment problem, developing competition and the national economy (Arıkan, 2013; Uluyol, 2013).

***Lifelong Learning:*** Due to the rapid development, change and innovation in technology in our age, information-oriented organizations, learning organizations and lifelong learning individuals have become the rising values of the information society (Fındıkçı, 2004). With the changes and developments experienced, the current information loses its currency and validity, for this reason, individuals forming the society who have to keep up with the changing world for a modern and prosperous life have to gain new knowledge and skills (Akkoyunlu, 2008). Continuously increasing, changing and renewed information also increases and changes the learning needs of individuals, so individuals have to be lifelong learners to meet these needs. This situation presents the concept of lifelong learning as a contemporary phenomenon (Demirel & Yağcı, 2012). The concept of lifelong learning was first used by Basil Yeaxle, Eduard Lindeman and John Dewey, who adopted the understanding that education was a continuous dimension of daily life in the 1920s, and it has become more widespread with the issues of "learning society" and "continuous learning" which are the basis for educational policies and encourage the society to learn in the report prepared by UNESCO in 1972 (Ayhan, 2006). Lifelong learning is considered as an activity from the cradle to the grave, and a tool that invests in people and knowledge, and provides for individual to keep pace with the rapidly changing and intensifying knowledge, skills, emotions and intuition by using the learning environment with time and opportunities needed for all learning activities that people will participate in the areas of their interest, and acquire skills such as flexible, information literacy and critical thinking. (Akkoyunlu, 2008; Aksoy, 2008; Demirel, 2012; Sönmez, 2008). The basic rule in lifelong learning is conscious and purposeful continuing learning throughout the entire life of the individual. Lifelong learning individuals control their learning needs, access the information they need, transfer this information to their own lives and add new information to them and generate new information (Demirel, 2011; Polat & Odabaş, 2008). In fact, since the existence of human beings, the change and innovation in every field must have been in a lifelong learning process due to inadequate and invalidated knowledge and skills (Polat & Odabaş, 2008). If the cognitive, affective, and psychomotor skills required to be lifelong learners are gained in the school life process, the individual can use lifelong learning skills after school life (Budak, 2009). For these reasons, more importance should be attached to the concept of lifelong learning in the education system (Akkoyunlu, 2008), all individuals, especially the young population, should be raised as lifelong learning individuals. The role of teachers is undeniable in raising individuals who learn lifelong and renew themselves (Fındıkçı, 2004). In order for teachers to realize this role, they must first be individuals who learn to learn (Özden, 2013), they must acquire lifelong learning skills and are open to development (Yaman, 2014), guiding and supporting their students in accessing and using information (Erdamar, 2015; Fındıkçı, 2004), they must have lifelong learning competencies (Evin Gencel, 2013), they must be a good model and a strong source of motivation (Varış, 1988). School administrators must have all these features expected from teachers. Because school administrators are expected to be teaching leaders (Konan, 2013). The teaching leader should provide more desirable learning conditions for teachers in order to raise good students, and turn the school's work environment into a satisfying and productive environment (Çelik, 1999), carry out lifelong learning activities and support these activities within the school (Çalık & Kılınç, 2018; Özden, 2013).

When the literature is examined, it is seen that there are many studies to determine the lifelong learning tendencies and competencies of teachers (Abbak, 2018; Arcagök & Şahin, 2014; Ayaz, 2016; Aykır & Taşpınar, 2017; Ayra, 2015; Ayra, Köstereliođlu & Çelen, 2016; Çağlar, 2017; Demirel, Sadi & Dağyar, 2016; Dervişoğulları, Tutkun & Dervişoğulları, 2016; Erdamar, Demirkan, Saraçoğlu &

Alpan, 2017; Gökyer & Karakaya Cirit, 2018; Gökyer, 2018; Kılıç & Ayaz Tuncel, 2014; Kılıç, 2015, Örs, 2016; Özçiftçi & Çakır, 2014; Özçiftçi & Çakır, 2015; Öztürk Yurtseven & Aldan Karademir, 2017; Paloğlu, Yılmaz & Keser, 2017; Poyraz, 2014; Selvi, 2011; Tenekeci, 2019; Tezer & Aynas, 2018; Yaman, 2014; Yılmaz, 2016), and a limited number of studies have been conducted to determine the lifelong learning tendencies of educational administrators (Bayaltun, 2017; Çoklar, 2012; Doğan & Kavtelek, 2015; Doğru & Doğru, 2015;Yılmaz & Beşkaya, 2018).

***Innovativeness:*** The concept of innovation, which expresses transforming information and ideas into a social or economic benefit (Özsağır, 2013), is a subject that has been researched and thoroughly studied in many fields such as business, sociology, communication, marketing and education (Kılıçer & Odabaşı, 2010). Since innovation is sometimes seen as a "thing" or sometimes as a "process" (Oğuztürk, 2003), the process of creating new ideas, solving unresolved problems, and seeking answers to unmet needs is called "innovation" (Nail, 1994; Yavuz Konokman, Yokuş & Yanpar Yelken, 2016). Nowadays, with the increasing and changing information, it is seen that the amount of innovation has increased and individual has to gain an innovative identity in order to keep up with the change. As it is impossible for the individuals who form the society to be indifferent to this situation due to the continuous change and innovation in every field, they are expected to have the skills and abilities to adapt to these situations from a young age (Ağaoğlu, Altınkurt, Yılmaz & Karaköse, 2012), have an innovative identity that does not resist innovations but adopts them (Yavuz Konokman, Yokuş & Yanpar Yelken, 2016). It is the aim of educational institutions to make individuals a harmonious member of the society in which they live, to equip them with the knowledge and skills required by the age, to train them with the equipment that can adapt to the changes and developments in the world (Dilaver, 1996). The main way to achieve this goal is through teachers who are in most contact with students (Özmusul, 2012). The fact that teachers have lifelong learning skills and are also open to innovation can support students in acquiring and using these skills (Kılıç, 2015). Likewise, educational institution administrators should organize the education and training environment in accordance with changes and innovations (Ağaoğlu, Altınkurt, Yılmaz & Karaköse, 2012), provide resources, create a regular school environment, create innovations rather than just formal jobs, and constantly improve the educational and training environments and opportunities offered at school (Erdoğan, 2000). When the literature is examined, it is observed that there are many studies to determine the innovativeness levels of teachers (Akçöltekin, 2017; Akın Köstereliođlu & Demir, 2014; Birekul, 2016; Demir Başaran & Keleş, 2015; İncebacak, Kayasandık, 2017; Kılıç, 2015; Kocasaraç & Karataş, 2017; Köroğlu, 2014; Tungaç & Yaman, 2018; Uras, 2000; Yılmaz Öztürk & Summak, 2014 ) and administrators (Argon, İsmetoğlu & İşeri, 2014; Çetin & Bülbül, 2017; Çoklar, 2012; Göl & Bülbül, 2012; Karataş, Gök & Özçetin, 2015; Özdemir Aydın & Tekin Bozkurt, 2013).

***Entrepreneurship:*** Entrepreneurship is a constantly changing and dynamic phenomenon, and it is generally defined as the process of taking risks, catching innovations, evaluating opportunities and realizing them (Bozkurt, 2007), and having the ability to facilitate human life by intuiting the opportunities that emerge in living environment, creating dreams from the intuitions and transforming the dreams into projects, putting the projects into practice and producing wealth (Bozkurt, cited in 2000, Bektaş & Köseoğlu, 2007). Today, with the rapid development of technology, the increasing speed of production and dissemination of information, globalization, and extraordinary changes in consumer demands have increased the importance of entrepreneurship (Koç, 2016). Because people are now required, who think very differently from ordinary-minded people, seek new opportunities, find and lead change (Altan, 2014). While entrepreneurial individuals are seen as people who make changes in society, they play an important role in ensuring social development, solving employment problem, developing competition and increasing social welfare (Arıkan, 2013; Uluyol, 2013). In addition to genetic features, family, income level and education have an impact on entrepreneurial personality formation (Arslan, 2002; İrmiş & Barutçu; 2012). Thus, environments should be prepared to raise individuals who think extraordinarily in schools and create opportunities to help students gain different experiences (Altan, 2014). Teachers have very important in the formation of this climate. Because being able to raise entrepreneurial individuals today is a challenging process that all societies

want to achieve. Therefore, entrepreneurship culture should be given in schools since childhood (Pan &Akay, 2015), and entrepreneurship skills of individuals should be supported since the first stage of the education and training process (Memduhoğlu & Şahin, 2017). If teachers are considered to be role models in education, it is expected that the teacher, who will give his/her students entrepreneurship features, also has these features. In addition, school administrators need to be aware of this capital and make the best use of it. For this reason, school administrators are expected to motivate, inspire, and have entrepreneurial qualities as visionaries (Engels, Hotton, Devos, Bouckenooghe & Aelterman, cited 2008 Balkar, 2015). Nowadays, it is inevitable for the individuals forming the society to grow up as individuals who know how to obtain the knowledge that is the biggest power in the changing and developing world for life, and develop innovative and entrepreneurial behaviors that can transfer this information to life. In the 21st century, lifelong learning, innovation and entrepreneurship behaviors that are expected to be acquired by individuals are gained especially at an early age, and education and schools have a significant impact on this. According to Ayaz (2016), the teacher who guides and leads his/her students must use ways of learning to learn, be open to innovations, entrepreneurs, keep pace with time and society, and become leaders in lifelong learning. In acquiring these skills, teachers have a great responsibility, at the same time, school administrators, who are leaders in the lifelong learning activities, entrepreneurship, innovation and change movements at school and are decisive in creating a lifelong learning, innovation and entrepreneurship culture, have also great responsibilities. School administrators need to create educational environments that develop these skills and at the same time they must have lifelong learning, entrepreneurial and innovative behaviors. According to Argon and Selvi (2013), the 21st century teachers should produce, use, present and manage information, and they should see, deal with and evaluate the deficiencies at their schools, they should take risks with self-confidence and have high level innovative and entrepreneurial values. For this reason, it is thought that it would be beneficial to determine the level of teachers and administrators to access new information, to be open to innovative approaches formed in line with new information, to show new knowledge and entrepreneurial behaviors, and to guide the necessary arrangements in the education system. Therefore, it is thought that to determine the existing competencies and acquisitions of teachers that will affect the teaching and learning processes of the students for whom they become their role models, will contribute to see the concrete difference between the current situation and what it should be. When the literature is examined, it is observed that there are a limited number of studies to determine entrepreneurial behaviour levels of teachers (Argon & Selvi, 2013; Bacanak, Ülküdür & Öner, 2012; Deveci, 2017; Gözüdok, Dakes, Karaca, Yıldırım & Yıldız, 2017; Önel, 2018; Özbilen & Oklay, 2017; Ülküdür, Duman & Bacanak, 2015) and school administrators (Bayrak & Terzi, 2004; Köybaşı & Dönmez, 2017). However, it is noteworthy that studies involving lifelong learning tendencies, innovation levels and entrepreneurship levels, including school administrators, are needed. Because, to determine the lifelong learning tendencies of school administrators and to detect the variables which are effective is significant for lifelong learning activities. Moreover, when the literature was examined, no study that searches the relation between school administrators and teachers' lifelong learning tendencies and innovative and entrepreneurial behavior levels was found. From this aspect, it is thought to contribute to the literature. Based on the assumption that there is a relation between the lifelong learning tendencies of the administrators and teachers and the levels of innovation and entrepreneurial behavior, it is aimed to examine these problems: “Do administrators and teachers with high levels of innovative behavior tend to be lifelong learning?” and “o administrators and teachers with a high level of entrepreneurial behavior tend to learn throughout life?” For that purpose, the following sub-problems are sought:

***1.*** Do the school administrators’ and teachers’ lifelong learning tendency, innovative behavior and entrepreneurial behavior levels differ according to gender, task (administrator and teacher) and branch variables?

2. Is there a meaningful relation between school administrator and teachers’ lifelong learning tendency levels and innovative behavior and entrepreneurial behavior levels?

## METHOD

### Research Model

The study is a quantitative one and performed with a correlational research design model. Relational screening models are research models that aim to determine the presence and/or degree of co-variation between two or more variables. Relations found through screening cannot be interpreted as a true cause and effect relation, but by giving some clues in that direction, if the situation in one variable is known, it can help to predict the other (Karasar, 2017).

### Sample

The universe of the research consists of 969 school administrators and 8680 teachers working in Sakarya Province in line with the information received from Sakarya Provincial Directorate of National Education in 2017-2018 school year. Volunteering was based on participation in the research. The research was carried out with teachers and school administrators who responded to the data collection tools, taking into account the available sample status resulting from volunteering. Information about the demographic features of the school administrators and teachers participating in the research and the types of schools they work in are presented in Table1.

**Table 1-Demographic Features of School Administrators and Teachers Participating in the Research**

| Demographic Features | | f | % |
|---|---|---|---|
| Gender | Female | 288 | 47,3 |
| | Male | 320 | 52,7 |
| Task Type | Administrator | 294 | 48,3 |
| | Teacher | 314 | 51,7 |
| Branch | Preschool | 64 | 10,5 |
| | classroom teacher | 243 | 40,0 |
| | Branch Teacher | 301 | 49,5 |

As it is seen in Table 1, out of 608 school administrators and teachers, 320 (52.7%) of them are males and 288 (47.3%) of them are female. 314 (51.7%) of the participants are teachers, 294 (48.3%) are school administrators (school principal or assistant principal). Furthermore, out of 608 school administrators and teachers, 301 (49.5%) are branch teachers and 243 (40.0%) are classroom teacher and 64 (10.5%) are preschool teachers.

### Data Collection Tools

*Lifelong Learning Tendency Scale:* "Lifelong Learning Tendency Scale" developed by Gür Erdoğan and Arsal (2016) is formed of 17 items. Cronbach's alpha coefficient of internal consistency calculated for the reliability of the scale is .86. In this study, Cronbach's alpha coefficient of internal consistency calculated for the reliability of the scale is .88.

*Entrepreneurial Behavior Scale:* "Entrepreneurial Behavior Scale" adapted to Turkish by Çalışkan, Akkoç and Turunç (2011) and developed by Zampetakis (2009) consists of 6 items. Cronbach's alpha coefficient of internal consistency calculated for the reliability of the scale is .80. In this study, Cronbach's alpha coefficient of internal consistency calculated for the reliability of the scale is .70.

*Innovative Behavior Scale:* "Innovative Behavior Scale" developed by Scott and Bruce (1994) was adapted to Turkish by Çalışkan, Akkoç and Turunç (2011). The scale is formed of 6 items. Cronbach's alpha coefficient of internal consistency calculated for the reliability of the scale is .86. In

this study, Cronbach's alpha coefficient of internal consistency calculated for the reliability of the scale is .73.

**Data Collection and Analysis**

In the 2017-2018 school year, data collection tools were distributed to school administrators and teachers working in each district from the school administrators and teachers working in Sakarya Province. 84 data collection tools found to be missing from the data collection tool returned from 692 school administrators and teachers, were considered invalid and excluded from the sample and the data of 608 participants were evaluated. In the analysis of the data, the skewness and kurtosis coefficients were taken into consideration to look at the normal distribution condition. The skewness and kurtosis values of these data are as follows:

**Table 2: Lifelong Learning Tendencies of School Administrators and Teachers and Innovative and Entrepreneurial Behavior Descriptive Statistics of the Total Scores Obtained from the Scales for Their Levels**

| Statistics | Lifelong Learning | Innovative Behaviour | Entrepreneurial Behaviour |
|---|---|---|---|
| N | 608 | 608 | 608 |
| Average | 74,4704 | 25,7303 | 23,0510 |
| Median | 75,0000 | 26,0000 | 23,0000 |
| Standard Deviation | 6,14507 | 2,37635 | 2,88021 |
| Skewness | -,382 | -,104 | -,276 |
| Kurtosis | -,410 | -,550 | -,258 |

As is seen Table 2, the skewness and kurtosis coefficients of three scales for 608 participants are examined, as these values obtained are between -1 and +1, the study group displays a normal distribution. In cases of normal distribution, t-test was applied to test whether the difference between the averages of two unrelated samples was significant or not, and Anova Test was applied to test whether the difference between the averages of the multiple unrelated samples was significant or not. In addition, Pearson's Correlation Coefficient was examined as all of the variables in the correlation analysis performed to examine whether there was a relation between the variables, and the direction and power of this relation.

## FINDINGS

In this section, the findings obtained as a result of the analysis of the collected data and the views of 608 school administrators and teachers in the study group are included. The results of the t-test regarding whether school administrators and teachers' lifelong learning tendencies and innovative and entrepreneurial behavior levels differ significantly by gender are summarized in Table 3.

**Table 3: T-test results related to the participants' lifelong learning tendencies and innovative and entrepreneurial behavior levels by gender**

| | Gender | N | $\bar{X}$ | SS | Sd | t | p |
|---|---|---|---|---|---|---|---|
| **LLL** | Female | 288 | 74,6910 | 6,07775 | 606 | ,839 | ,402 |
| | Male | 320 | 74,2719 | 6,20783 | | | |
| **IB** | Female | 288 | 25,5486 | 2,38996 | 606 | -1,791 | ,074 |
| | Male | 320 | 25,8938 | 2,35580 | | | |
| **EB** | Female | 288 | 23,2847 | 2,95651 | 606 | 1,902 | ,058 |
| | Male | 320 | 22,8406 | 2,79771 | | | |

When Table 3 was examined, it was seen that lifelong learning tendencies of the participants (t(606)=,839 p>0,05), innovative behavior levels (t(606)= -1,791 p>0,05) and entrepreneurial behavior

levels (t(606)= 1,902 p>0,05) do not differ significantly by gender. The results of the t-test regarding whether school administrators' and teachers' lifelong learning tendencies and innovative and entrepreneurial behavioral levels differ significantly according to their (administrator or teacher) are summarized in Table 4.

**Table 4: T-test results regarding Lifelong Learning Tendencies and Innovative and Entrepreneurial Behavior Levels by Participant's Task Type**

| | Task | N | $\bar{X}$ | SS | Sd | t | p |
|---|---|---|---|---|---|---|---|
| **LLL** | Administrator | 294 | 74,7687 | 5,78284 | 606 | 1,163 | ,245 |
| | Teacher | 314 | 74,1911 | 6,46261 | | | |
| **IB** | Administrator | 294 | 26,0204 | 2,18892 | 606 | 2,945 | ,003 |
| | Teacher | 314 | 25,4586 | 2,51256 | | | |
| **EB** | Administrator | 294 | 23,3265 | 2,70296 | 606 | 2,299 | ,022 |
| | Teacher | 314 | 22,7930 | 3,01834 | | | |

When Table 4 was examined, it was observed that lifelong learning tendencies of the participants did not differ significantly by tasks (administrator or teacher) (t(606)=1,163 p>0,05). However, as a result of the analyses, innovative behavior levels of the participants differ significantly by tasks (administrator or teacher) (t(606)= 2,945 p<0,05). Innovative behavior level of school administrators ( = 26,0204) are higher than that of teachers ( = 25,4586). Moreover, entrepreneurial behavior levels of the participants display a significant difference by tasks (administrator or teacher) (t(606)= 2,299 p<0,05). Entrepreneurial behavior level of school administrators ( = 23,3265) is higher than that of teachers ( = 22,7930).The Anova Test conducted on whether school administrators and teachers show a significant difference according to their lifelong learning tendencies and their branches of innovative and entrepreneurial behavior is summarized in Table 5.

**Table 5: Anova test results regarding Lifelong Learning Tendencies and Innovative and Entrepreneurial Behavior Levels according to the Branch of the Participants**

| Scale | Branch | | N | $\bar{X}$ | | SS |
|---|---|---|---|---|---|---|
| Lifelong Learning | (1) Preschool Teacher | | 64 | 76,4531 | | 6,52207 |
| | (2) Classroom Teacher | | 243 | 74,5473 | | 5,79976 |
| | (3) Branch Teacher | | 301 | 73,9867 | | 6,26577 |
| | Source of variable | Sum of squares | Sd | Average of squares | F | p | Significant difference |
| | Intergroup | 323,455 | 2 | 161,728 | 4,330 | ,014 | 1-2, 3 |
| | In group | 22598,012 | 605 | 37,352 | | | |
| | Total | 22921,467 | 607 | | | | |
| Scale | Branch | | N | X | | SS | |
| **Innovative Behavior** | (1) Preschool Teacher | | 64 | 26,6094 | | 2,50471 | |
| | (2) Classroom Teacher | | 243 | 25,7202 | | 2,13682 | |
| | (3) Branch Teacher | | 301 | 25,5515 | | 2,49563 | |
| | Source of variable | Sum of squares | Sd | Average of squares | F | p | Significant difference |
| | Intergroup | 59,106 | 2 | 29,553 | 5,308 | ,005 | 1-2, 3 |
| | In group | 3368,657 | 605 | 5,568 | | | |
| | Total | 3427,763 | 607 | | | | |
| Scale | Branch | | N | X | | SS | |
| **Entrepreneurial Behavior** | (1) Preschool Teacher | | 64 | 23,9531 | | 2,89734 | |
| | (2) Classroom Teacher | | 243 | 23,1852 | | 2,58306 | |
| | (3) Branch Teacher | | 301 | 22,7508 | | 3,05958 | |

| Source of variable | Sum of squares | Sd | Average of squares | F | p | Significant difference |
|---|---|---|---|---|---|---|
| Intergroup | 83,581 | 2 | 41,791 | 5,106 | ,006 | 1-3 |
| In group | 4951,838 | 605 | 8,185 | | | |
| Total | 5035,419 | 607 | | | | |

When Table 5 was examined, it was observed that lifelong learning tendencies of the participants displayed a significant difference by branch type (F(605)=4,330 p<0,05). Scheffe test was performed to reveal in which branches this difference was. As a result of the test, it was seen that the main difference was between preschool teachers, form teachers and branch teachers. Lifelong learning tendency of preschool teachers are higher than the ones of form teachers and branch teachers. Likewise, when Table 5 was examined, it was seen that innovative behavior levels of the participants displayed a significant difference by branch type (F(605)=5,308 p<0,05). Scheffe test was performed to reveal that in which branches this difference was. As a result of the test, it was seen that the main difference was between preschool teachers, form teachers and branch teachers. It was observed that innovative behavior levels of preschool teachers were higher than the ones of form teachers and branch teachers. Furthermore, when Table 5 was examined, it was seen that entrepreneurial behavior levels of the participants displayed a significant difference by branch type variable (F(605)=5,106 p<0,05). Scheffe test was performed to reveal in which branches this difference was. As a result of the test, it was seen that the main difference was between preschool teachers and branch teachers. Entrepreneurial behavior levels of preschool teachers are higher than the ones of form teachers. The relation between school administrators and teachers' lifelong learning tendencies and innovative and entrepreneurial behavior levels is summarized in Table 6.

**Table 6: Correlational test results between Participants' Lifelong Learning Tendencies and Innovative and Entrepreneurial Behavior Levels**

| | | Lifelong Learning | Innovative Behavior | Entrepreneurial Behavior |
|---|---|---|---|---|
| **Lifelong Learning** | PearsonCorrelation | 1 | ,534** | ,377** |
| | Sig. (2-tailed) | | ,000 | ,000 |
| | N | 608 | 608 | 608 |
| **Innovative Behavior** | PearsonCorrelation | ,534** | 1 | ,330** |
| | Sig. (2-tailed) | ,000 | | ,000 |
| | N | 608 | 608 | 608 |
| **Entrepreneurial Behavior** | PearsonCorrelation | ,377** | ,330** | 1 |
| | Sig. (2-tailed) | ,000 | ,000 | |
| | N | 608 | 608 | 608 |

When Table 6 was observed, the relation between participants' lifelong learning tendencies and innovative and entrepreneurial behavior levels was examined by correlation analysis. As a result of these relations, correlation coefficient between lifelong learning tendencies and innovative behavior level was found as 0.534. This value indicates a positive, moderate relation. In addition, correlation values obtained are statistically significant (r=0.534 p<0.00). Correlation coefficient between lifelong learning tendencies and entrepreneurial behavior levels among the examined relations was found as 0.377. this value indicates a positive, moderate relation. In addition, correlation value obtained is statistically significant (r=0,377 p <0,00). Furthermore, correlation coefficient between innovative behavior levels and entrepreneurial behavior levels was found as 0.330. This value indicates a positive, moderate relation. The correlation value obtained is statistically significant (r=0,534 p<0,00). In conclusion, it was found that there was a significant, positive and moderate relation between participants' lifelong learning tendencies, innovative behavior levels and entrepreneurial behavior levels.

## RESULT, DISCUSSION AND RECOMMENDATIONS

In the study, no significant difference was found in the lifelong learning tendencies of school administrators and teachers according to gender. This finding of the study is similar to the findings of many studies in the literature. In the literature, there are a number of studies that there is no significant difference in lifelong learning tendencies of teachers (Arcagök & Şahin, 2014; Ayaz, 2016; Aykır & Taşpınar, 2017; Çağlar , 2017; Çam & Üstün, 2016; Demirel, Sadi & Dağyar, 2016; Kılıç, 2015; Örs, 2016; Özçiftçi & Çakır, 2015; Paloğlu, Yılmaz & Keser, 2017; Tenekeci, 2019; Yaman, 2014; Yılmaz, 2016), teacher candidates (Boztepe & Demirtaş, 2018; Dündar, 2016; Güzel, 2017; Oral & Yazar, 2015, Savuran, 2014; Tezer & Aynas, 2018 Tunca, Alkın Şahin & Aydın, 2015; Ünal & Akay, 2017) and administrators (Bayaltun, 2017; Doğan & Kavtelek, 2015) by gender variable. However, in the literature, in the study by Erdamar, Demirkan, Saraçoğlu and Alpan (2017), Ayra, Köstereliođlu and Çelen (2016), Dervişoğlu, Tutkun and Dervişoğlu (2016), Çakır (2015), Kılıç (2015) and Özçiftçi, Hüsren (2011) with teachers, in the study by Gür-Erdoğan (2014), Demirel and Akkoyunlu (2010), Evin Gencel (2013), İzci and Koç, 2012 and Demiralay (2008) with teacher candidates, in the study by Yılmaz and Beşkaya (2018) with school administrators, it was inferred that there was a significant difference in lifelong learning tendencies by gender. Gökyer (2018), Gökyer and Karkaya Cirit (2018), Tezer and Aynas (2018), Erdamar, Demirkan, Saraçoğlu and Alpan (2017), Ayra, Köstereliođlu and Çelen (2016), Dervişoğlu, Tutkun and Dervişoğlu (2016), Özçiftçi and Çakır (2015), Kılıç (2015) stated that female teachers had higher lifelong learning tendencies, and Yılmaz and Beşkaya (2018) stated that female school administrators had higher lifelong learning tendencies, and Öztürk Yurtseven and Aldan Karademir (2017) Gür-Erdoğan (2014), Evin Gencel (2013), İzci and Koç (2012), Demiralay (2008) stated that female teacher candidates had higher lifelong learning tendencies than that of male teacher candidates. Coşgun and Yılmaz (2017) determined that out of the sub-dimensions of the lifelong learning tendencies, in the sub-dimensions of lack of organization in learning and lack of curiosity, and in the point average of the females were significantly higher than the point average of the males. In a study, Hürsen (2011) found a significant difference in favor of female teachers according to gender variable in teachers' perceptions of efficacy towards lifelong learning approach. Again, in a study, Özçiftçi and Çakır (2015) found that teachers' lifelong learning tendencies differ in favour of female teachers by gender. Jenkins (2004) concluded that women tended to learn more than men and valued learning more. Jerkins (2004) states that because of the role and responsibilities of women in family and community life, they have to change their jobs, have to give up work or take long breaks, worry that they will be more inadequate in terms of professional advancement than men, and they also benefit from the education system less than men, and therefore, to meet the basic educational needs of women, they care more about participating in learning activities. In the study, there was no significant difference in the innovative behavior levels of school administrators and teachers according to gender. In this sense, it can be said that the level of innovativeness of teachers and administrators is similar for women and men. In the literature, as a result of some studies performed with teachers (Argon, İsmetoğlu & Çelik Yılmaz, 2015; Demir Başaran & Keleş, 2015; Kaya, 2017; Kayasandık, 2017; Kılıç, 2015), administrators (Çetin & Bülbül, 2017; Yılmaz & Beşkaya, 2018) and teacher candidates (Adıgüzel, Kaya, Balay & Göçen, 2014; Bitkin, 2012; Çuhadar, Bülbül & Ilgaz, 2013; Kert & Tekdal, 2012; Korucu & Olpak, 2015; Özgür, 2013; Yapıcı, 2016; Yenice & Yavaşoğlu, 2018; Yılmaz & Başkaya, 2018), there is a parallelism with the results of this study. Unlike this, Yılmaz, Soğukçeşme, Ayhan, Tuncay, Sancar and Deniz (2014) detected as a result of a study performed with teacher candidates that female teacher candidates had higher innovative tendencies than the male teacher candidates, Yüksel (2015) stated that individual innovativeness level of male teacher candidates was higher than the ones of female teachers. In a study by Klecker and Loadman (1999), it was marked that female school principals are more open to innovation in terms of cognitive and behavioral than male school principals. In the study, there was no significant difference in the entrepreneurial behavior levels of school administrators and teachers according to gender. In this context, it can be said that the entrepreneurial behavior levels of administrators and teachers are similar for women and men. In the literature, the results of the studies performed with teachers (Argon &Selvi, 2013; Uygun & Er, 2016; Yavuz Konokman & Yanpar Yelken, 2014; Yıldırım, Genc & Eryaman, 2016), administrators (Köybaşı & Dönmez, 2017) and

teacher candidates (Armut & Kılınç, 2018; Çavdar, Cumhur, Koç & Doymuş, 2018; Çelik, 2014; Karademir, Balbağ & Çemrek, 2018; Köstekçi, 2016; Memduhoğlu & Şahin, 2017) are compatible with the results of this study. However, in the literature, there are also studies that teacher candidates' entrepreneurial behavior levels differ according to gender. Aydın and Öner (2016) concluded that male teacher candidates had higher levels of entrepreneurial behavior than female teacher candidates. In the study, no significant difference was found according to the tasks (principal or teacher) performed by the school administrators and teachers in their lifelong learning tendencies. With this result, it can be stated that the task definition variable (principal or teacher) in school is not an effective variable in lifelong learning tendencies. In the literature, there is no source that directly compares lifelong learning tendencies of school administrators and teachers. However, in a study conducted with administrators and teachers working in the Public Education Center, which is an educational institution, it is concluded that there is no significant difference between the lifelong learning tendencies of administrators and teachers (Bayaltun, 2017). In the study, it was concluded that the innovative behavior levels of school administrators and teachers differ significantly compared to the tasks they perform (principal or teacher), and the level of innovative behaviors of school administrators is higher than the teachers. This result suggests that school administrators can guide teachers to show more innovative behavior. Thus, according to Cerit (2004) in the research conducted by the school administrators according to their opinions in the globalization process, it was detected that an administrator had the idea that he/she should have the ability to guide the teachers. In addition, Koçak and Helvacı (2011) in a study that the effectiveness of school administrators was determined according to teachers's views, concluded that concluded that school principals should motivate teachers for innovations and guide teachers and students. In the study, it was concluded that the entrepreneurial behavioral behavior levels of school administrators and teachers differ significantly compared to their tasks (principal or teacher), and the level of entrepreneurial behavior of school administrators is higher than that of teachers. In a study by Ülküdür, Duman and Bacanak (2015), it was concluded that school principals were positively influenced by the entrepreneurial skills of form teachers, and at the same time, that there should be social activities and in-service trainings to improve the entrepreneurial skills of the form teachers in many ways, and the teachers should be appreciated by the school principals. In the study, it was concluded that lifelong learning tendencies of school administrators and teachers differ significantly according to the branch type variable. It has been observed that this difference is between preschool teachers and form teachers and branch teachers. In this sense, it can be said that preschool teachers have high lifelong learning tendencies, are more willing and open to learn new knowledge and skills than form teachers and branch teachers, and tend to make more efforts for their personal and professional development. In the literature, there are a number of studies that there is a significant difference in lifelong learning tendencies of teachers (Ayaz, 2016; Ayra, Köstereliođlu & Çelen, 2016; Tenekeci, 2019; Yaman, 2014), teacher candidates (Evin Gencel, 2013; Güzel, 2017; İzci & Koç, 2012; Şahin, Akbaşlı & Yanpar Yelken, 2010; Tunca, Alkın Şahin & Aydın, 2015) by branch/department variable. According to Ayaz (2016), lifelong learning tendency of English, Geography, Painting, Preschool and Social Studies teachers is higher than that of other branch teachers, Ayaz (2016) states that lifelong learning tendencies of especially German, Arabic, biology, technology and design, physical education, chemistry, music, physics, religious culture and moral knowledge teachers are lower than the ones of all other branches, Yaman and Yazar (2015) express that lifelong learning tendencies of Fine Arts teachers are higher than the ones of Science-Mathematics, Social-Turkish, Foreign Language and other areas, Ayra, Köstereliođlu and Çelen (2016) remark that lifelong learning tendencies of form teachers are higher than that of branch teachers, Tunca, Akın Şahin and Aydın (2015) indicate that lifelong learning tendencies of social sciences and science teacher candidates are higher than the ones of form teacher candidates. However, in the literature, there are many studies that conclude that there is no significant difference in lifelong learning tendencies of teachers (Arcagök & Şahin, 2014; Çam & Üstün, 2016; Ayra, Köstereliođlu & Çelen, 2016; Dervişoğlu, Tutkun & Dervişoğlu, 2016; Kılıç, 2015; Tezer & Aynas, 2018), teacher candidates (Erdamar, Demirkan, Saraçoğlu & Alpan, 2017; Gür-Erdoğan, 2014; Karakuş, 2013; Tezer & Aynas, 2018 Ünal & Akay, 2017) and school administrators (Bayaltun, 2017) by branch type variable. In the literature, the reason of different results about lifelong learning tendencies by branch variable can be the characteristics of sample groups, difference of the

measurement tools used in the studies and that it is focused on different components of lifelong learning in the sub-dimensions of the scales.

In the study, it is concluded that there is a significant difference in the innovative behavior levels of school administrators and teachers according to the branch type variable. It has been observed that this difference is between preschool teachers and form teachers and branch teachers. Preschool teachers' innovative behavioral characteristics were found to be higher than form teachers and other branch teachers. In this sense, it can be said that preschool teachers tend to do more because their innovative behavior level is high. In the literature, in the studies conducted with teacher candidates, it is found that students studying in preschool, social studies, information technologies and classroom teaching have higher innovation levels than students in other branches or departments (Bitkin, 2012; Köroğlu, 2014; Özgür, 2013). In the study of Yılmaz, Soğukçeşme, Ayhan, Tuncay, Sandar and Deniz (2014), it is concluded that the professional innovativeness tendencies of social studies teacher candidates are higher than that of science teachers, mathematics and form teachers. Unlike these results, in the literature, in the studies performed with teachers, there are also results that the branch type variable is not an effective variable in innovative behavior levels (Kılıç, 2015).

In the research, it was concluded that there is a significant difference in the entrepreneurial behavior levels of school administrators and teachers according to the branch type variable. It has been observed that this difference is between preschool teachers and branch teachers. In this sense, it can be said that preschool teachers have higher levels of entrepreneurial behavior than branch teachers. Çelik (2014) concludes in a study that the teacher candidates studying in social sciences have higher entrepreneurial skills than the teacher candidates studying in classroom teaching department. In a study by Amos and Onifade (2013), it is stated that the perceptions of science-based teacher candidates towards entrepreneurship are more positive than teacher candidates in other fields. Moreover, in a study by Pan and Akay (2015) on teacher candidates in the faculty of education, Turkish, Mathematics, English, Classroom Teaching, Preschool and Physical Sciences, it is stated that science teacher candidates have the highest entrepreneurship point average. Karademir, Balbağ and Çemrek (2018) infer that the entrepreneurship levels of teacher candidates in classroom teaching, science and mentally handicapped students are higher than that of elementary mathematics, Psychological Counselling and Guidance, and Social Studies teacher candidates. In a study on the entrepreneurship of teacher candidates by Pan and Akay (2015), according to the department variable, it is seen that the highest average of entrepreneurship scores belongs to the students of science and technology education department, and the lowest entrepreneurship score belongs to the students of primary education mathematics department. In a study by Köstekçi (2016), it is detected that the teacher candidates in mathematics department have higher entrepreneurship characteristics than the science teacher candidates. In a study performed with school administrators by Köybaşı and Dönmez (2017), it is concluded that school administrators with a social sciences branch have higher levels of entrepreneurship perception than school administrators with a science and mathematics teaching branch. In the literature, it is seen that there are various results regarding the entrepreneurial behavior levels of teachers, teacher candidates and school administrators that differ according to the branch type variable. Additionally, in the literature, in some researches conducted with teachers and teacher candidates, it is also seen that studies that the branch type variable is not an effective variable in the level of entrepreneurial behavior (Argon & Selvi, 2013; Aydın & Öner, 2016; Memduhoğlu &Şahin, 2017 ) In the research, it is concluded that there is a significant, positive and moderate relation between the lifelong learning tendencies of school administrators and teachers and their innovative behavior levels. According to the results of the research, it can be said that the lifelong learning tendencies of teachers and administrators affect innovative behavior levels and as the lifelong learning tendencies of teachers and administrators increase, the level of innovative behavior increases in parallel with this. In the literature, there is a parallelism with some research results. Mülhim (2018) concludes that there is a significant, positive and moderate relation between lifelong learning tendencies of teacher candidates and individual innovativeness levels while Yılmaz and Beşkaya (2018) states that there is a significant, positive and moderate relation between lifelong learning tendencies of school administrators and and individual innovativeness levels. Öztürk Yurtseven and

Aldan Karademir (2017) infer that lifelong learning tendencies of teacher candidates predict individual innovation levels by 30%. Adıgüzel, Kaya, Balay and Göçen (2014) determine that there is a moderate positive relation between the teacher candidates' individual innovation levels and their attitudes towards learning. Yavuz Konokman, Demircioğlu, and Akay (2016) reach the conclusion that the level of innovation of faculty members is effective in their attitudes towards European Union Lifelong Learning projects. Unlike these results, in a study by Kılıç (2015), it is stated there is no significant relation between teachers' lifelong learning tendencies and individual innovation levels. In the research, it is concluded that there is a significant, positive and moderate relation between the lifelong learning tendencies of the school principals and teachers and the entrepreneurial behavior levels. According to the research result, it can be said that the lifelong learning tendencies of teachers and administrators affect entrepreneurial behavior levels, and the level of entrepreneurial behavior increases moderately as the lifelong learning tendencies of administrators and teachers increase. Similar to this result, Sezen Gültekin and Gür Erdoğan (2016) conclude that there is a significant, positive and high-level relation between teacher candidates' lifelong learning tendencies and social entrepreneurial behavior levels. Furthermore, within the framework of lifelong learning understanding, the competencies that all member country citizens must possess have been determined as 'key competences' by the European Union, these key competences are as follows: (1) communication in the mother tongue, (2) communication in a foreign language, (3) basic competences in mathematics, science and technology, (4) digital competence, (5) learning to learn, (6) social and human competences, (7) initiative and entrepreneurship and (8) cultural awareness and expression competence (European Union, 2006). As is seen, one of the key qualifications classified is entrepreneurship, which is expressed by the European Union as the ability of the individual to translate his/her thoughts into action.

In the study, it is concluded that there is a significant, positive and moderate level relation between the innovative behavior levels of the administrators and teachers and the entrepreneurial behavior levels. In this context, it can be said that the innovative behavior levels of entrepreneurs and teachers affect each other, and the level of entrepreneurial behavior increases moderately as the innovative behavior levels increase. In the literature, in a study performed with university students by Çetin and Taşdemir (2017), while a moderate relation is detected between the level of individual innovation and entrepreneurship capacity, and there is a very weak relation between the level of individual innovation and entrepreneurship intent. Bayrak and Terzi (2004) express that school administrators with entrepreneurial characteristics will make positive contributions to the school and innovative practices of the education system. Additionally, Brown, Beale and White Johnson (2011) emphasize that leadership, creativity, motivation, innovation, risk taking, self-esteem and self-efficacy are personal factors affecting entrepreneurship. Entrepreneurship is a dynamic process that includes vision, change and innovation, it requires a passion and energy to find and implement new ideas and constructive solutions (Yalçıntaş, 2010).

In the study, it has been revealed that there is a relation between lifelong learning, innovative behavior and entrepreneurial behavioral skills. In this sense, in-service trainings, applied activities, project studies for entrepreneurial and innovative behavioral skills that support lifelong learning skills of school administrators and teachers can be carried out and the effectiveness of the programs prepared in this direction can be evaluated. In addition, as a result of the research, it was detected that the innovative behavior levels and entrepreneurial behavior levels of school administrators were higher than the teachers. Qualitative researches can be conducted on the reasons of the difference in education managers according to the factors that are thought to have effects on innovative behavioral levels and entrepreneurial behavioral levels, and lifelong learning tendencies, innovative behavioral levels and entrepreneurial behavioral levels.

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