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Examination of the Relationship between School Administrators' Lifelong Learning Tendencies and Individual Innovativeness Levels*

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Abstract

This study aims to investigate school administrators' tendencies towards lifelong learning and their individual innovativeness levels by using different variables, as well as to determine the relationship between these tendencies and levels. The research was conducted using a correlational survey model, one of the quantitative methods. The universe of this study consisted of 1308 school administrators working in Sakarya province. The sample includes 302 school administrators who were randomly selected from this universe and volunteered to participate. Data collection involved the use of a "Personal Information Form", the "Lifelong Learning Tendencies Scale", and the "Individual Innovativeness Scale". Data analyses were conducted using the SPSS 24.0 software package. Descriptive statistics were used to calculate the scores obtained by school administrators from the scales to analyze the sub-problems of the research. The Kolmogorov-Smirnov and Shapiro-Wilk normality tests, along with the Mann-Whitney U and Kruskal-Wallis H tests, were used for comparison analyses, whereas the Spearman rank-order correlation coefficient was examined for the relationship analysis. Given the results achieved research results, a positive and moderately significant relationship was found between school administrators' lifelong learning tendencies and their individual innovativeness levels. It was concluded that there is no significant difference in school administrators' lifelong learning tendencies and individual innovativeness levels by gender and administrative experience variables. However, it was found that school administrators' lifelong learning tendencies show a significant difference in favor of those pursuing postgraduate education by the education level variable, whereas their individual innovativeness levels do not show a significant difference.

Keywords: Individual innovativeness, lifelong learning, school administrators

1. Introduction

School administrators are individuals managing the infrastructure that surrounds the technical aspects of teaching and learning. They are responsible for planning, organizing, budgeting, and addressing issues both within and outside the system (Lunenburg, 2002). School administration refers to the capacity to influence the attitudes, skills, and beliefs of employees in a way that contributes to the school's goals (Gibson & Deem, 2016). The effectiveness of a school organization largely depends on the school administrator's skills to create, manage, maintain, and

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execute purposeful actions through coordinated collaborative efforts. Therefore, school administration is the process of coordinating and integrating both individual efforts and material resources to achieve the goals of the school system.

For a school administrator to perform their administrative duties effectively and efficiently, they must be knowledgeable about the implementation of innovations in school management (Akpan, 2016). In this context, it becomes important for administrators to continuously work on updating and developing themselves to adapt to technological innovations in the field of education and create an information society in schools through the process of lifelong learning (LLL) (Urhan, 2020). Adopting the LLL process and continuously improving themselves can contribute to administrators not only in terms of their professional development but also in making their schools stronger.

LLL means sustainable learning. Sustainability in education should primarily start with school administrators. The advancement of the education system requires school administrators who are dedicated to LLL, globally competitive, and excel in their work. In this context, today's school administrators need to adapt to recent changes in the education system (Baldovino, 2018). Educational administration is not merely a bureaucratic function; it is an evolving professional discipline with different implementation elements depending on educational achievements, namely student learning. Educational administration has become a complex profession requiring in-depth study and continuous learning throughout one's professional career. Leading an educational organization necessitates LLL (Reeves & Berry, 2008). Thus, LLL can help school administrators better understand the constantly changing educational environment, expand their knowledge and skills development, and strengthen their abilities to serve as mentors (Kajs, Decman, Cox, Willman & Alaniz, 2002). The most significant features of the current era are uncertainty, complexity, globalization, and technological advancements. Under such conditions, success often requires changes in the execution and management of institutional activities and tasks. In this sense, the presence of effective and innovative administrators can help educational systems better achieve their goals (Rad, Shahi & Fazeli, 2021). Changes and advancements in society bring innovative practices in education. Innovation refers to purposeful, organized, and risk-taking changes applied to any business organization to ensure efficiency and increase productivity. The goal of injecting innovations into school administration is to increase school standards, quality, and institutional effectiveness (Akpan, 2016). Kılıçer (2011) defined individual innovativeness (II) as the willingness of individuals to accept and adopt innovation with a positive attitude, reflect innovation in their daily lives, and benefit from innovations. In this context, school administrators who adopt individual innovativeness can become successful administrators in aligning their schools with the requirements of the age by continuously developing themselves through the LLL process.

The educational environment is constantly changing. Factors such as the emergence of new technologies, differentiation of pedagogical approaches, and changing societal expectations bring about continuous change in education. LLL enables school administrators to adapt to this changing environment, follow current educational research, and adopt best practices. LLL and innovativeness are complementary important concepts for individuals to succeed in an ever-changing world. These two characteristics contribute to individuals' personal and professional development. LLL focuses on continuously developing an individual's knowledge, skills, and abilities. This continuous development makes the individual more flexible, open-minded, and innovative. LLL enhances an individual's creativity and innovation capability. The continuous learning process helps the individual to develop new ideas by feeding on various sources of information. School administrators can shape the school culture and climate with II

characteristics. Innovativeness can create a positive learning atmosphere among students, teachers, and other staff.

School administrators' lifelong learning tendencies and innovative characteristics can contribute to the success of the school, student achievement, and alignment with societal expectations. School administrators with lifelong learning tendency become more innovative and creative by continuously acquiring new knowledge and experiences, enhancing their problem-solving skills, increasing their flexibility, and strengthening attributes such as risk-taking and openness to change. Innovative individuals are generally curious, eager to explore, and open to learning. Thus, they are driven by a constant desire to learn and discover new things, which can further enhance their tendency for lifelong learning. It is believed that there is a positive relationship between lifelong learning tendencies and individual innovativeness. In this context, it is important to examine the relationship between the lifelong learning tendencies and the levels of individual innovativeness among school administrators. The success of a school can be directly related to the leadership and management skills of its administrators. School administrators who exhibit individual innovativeness and a tendency for lifelong learning can more effectively fulfill their leadership roles. Investigating the relationship between the lifelong learning tendencies and the level of individual innovativeness of school administrators is crucial for improving educational quality and making schools more effective. The results of this research can contribute to the development of educational policies and leadership development programs.

Reviewing the literature, it was determined that there are studies examining the lifelong learning tendencies and individual innovativeness levels among administrators working in different professional fields, as well as among students and teachers within the education system (Beşkaya, 2017; Mülhim, 2018; Yenice & Tunç, 2019; Yılmaz & Beşkaya, 2018; Öztürk Yurtseven & Aldan Karademir, 2017). However, there are only a few studies that specifically investigate the relationship between the lifelong learning tendencies and the individual innovativeness levels among school administrators (Yılmaz & Beşkaya, 2018). This study differs from the study carried out by Yılmaz and Beşkaya (2018) by involving a larger number of school administrators and collecting data by using a different scale for measuring lifelong learning tendencies. Additionally, the literature on lifelong learning and individual innovativeness includes studies conducted on samples different from the current study, such as university students and teachers, examining variables like gender, managerial experience, and educational background (Kılıç, 2015; Mülhim, 2018; Yenice & Tunç, 2019). In this context, determining the relationship between the lifelong learning tendencies and the levels of individual innovativeness among school administrators through this study can raise their awareness about fostering a culture that promotes lifelong learning in schools, thus contributing to more effective and innovative educational environments. Furthermore, this study is considered important for the development of strategies aiming to improve educational practices through training activities to be organized in schools. In this context, the present study aims to examine the relationship between the lifelong learning tendencies and the levels of individual innovativeness of school administrators, as well as the differences in these tendencies and levels by various variables (gender, managerial experience, and educational background). Within this scope, the research questions are as follows:

1. Do the lifelong learning tendencies of school administrators exhibit significant differences by gender, managerial experience, and educational background?
2. Do the levels of individual innovativeness of school administrators exhibit significant differences by gender, managerial experience, and educational background?
3. Is there a relationship between the lifelong learning tendencies and the levels of individual innovativeness of school administrators?

2. Method

2.1. Research Model

The correlational survey model, one of the quantitative approaches, was used in the present study. The correlational survey model is a type of survey that is used to determine if there is a simultaneous change between two or more variables (Karasar, 2017).

2.2. Universe and Sample

The population of the research consists of a total of 1,308 school administrators, including 472 school principals, 19 vice-principals, and 817 assistant principals working in official kindergartens, primary schools, secondary schools, and high schools in Sakarya province during the 2022-2023 academic year (MEB, 2022). From this population, school administrators from schools selected by simple random sampling were included in the sample. This method ensures that each participant in the population has an equal and independent chance of being selected (Büyüköztürk et al., 2015). The link to the scales was sent to the school administrators working at the selected schools. A total of 302 school administrators who voluntarily completed the scales formed the sample of the study. The demographic characteristics of the school administrators in the sample are shown in Table 1.

Table 1

Demographic Characteristics of Administrators in the Sample

Demographic Variable	Category	Frequency (f)	Percentage (%)
Sex	Female	82	27.2
	Male	220	72.8
Administrative Experience	0-10 years	161	53.3
	11-20 years	113	37.4
	21 years and longer	28	9.3
Educational Status	Undergraduate	214	70.9
	Postgraduate	88	29.1

Examining Table 1, it can be seen that 82 (27.2%) of the school administrators who participated in this study are female and 220 (72.8%) are male. Of the school administrators, 161 (53.3%) have 0-10 years of experience, 113 (37.4%) have 11-20 years of experience, and 28 (9.3%) have over 21 years of experience. Furthermore, 214 (70.9%) of the school administrators have an undergraduate degree, and 88 (29.1%) have a postgraduate degree.

2.3. Data Collection Instruments

In the present study, the "Personal Information Form" prepared by the researcher was used to determine the demographic characteristics of the administrators. The "Lifelong Learning Tendency Scale (LLTS)" developed by Gür Erdoğan and Arsal (2016) was used to identify the lifelong learning tendencies of school administrators, and the "Individual Innovativeness Scale (IIS)" adapted into Turkish by Kılıçer and Odabaşı (2010) was used to determine the individual innovativeness levels of the school administrators.

2.3.1. *Personal Information Form*

The "Personal Information Form" prepared by the researcher consists of three questions covering the demographic information of the administrators (sex, administrative experience, and education level).

2.3.2. Lifelong Learning Tendency Scale

The LLTS, consisting of 17 items, was developed by Gür Erdoğan and Arsal (2016). The scale items are scored on a five-point Likert scale (1- Strongly Disagree, 2- Disagree, 3- Neutral, 4- Agree, 5- Strongly Agree). There are no negative (reverse) items on the scale. The scale has two sub-dimensions. The first eleven items address the "Willingness to Learn" sub-dimension, and the last six items address the "Openness to Development" sub-dimension. Scores on the LLTS range between 17 and 85 points. Higher scores on the LLTS indicate a higher lifelong learning tendency, whereas lower scores indicate a lower tendency. Gür Erdoğan and Arsal (2016) calculated the criterion validity of the LLTS as 0.71. The Cronbach's Alpha reliability coefficient for the entire scale was calculated as 0.86 and for the sub-dimensions as 0.82.

2.3.3. Individual Innovativeness Scale

The "Individual Innovativeness Scale (IIS)" consisting of 20 items, developed by Hurt et al. in 1977, was adapted into Turkish by Kılıçer and Odabaşı in 2010. The scale items are scored on a five-point Likert scale (1- Strongly Disagree, 2- Disagree, 3- Neutral, 4- Agree, 5- Strongly Agree). The scale consists of four sub-dimensions. Eight items (4, 6, 7, 10, 13, 15, 17, 20) relate to "Resistance to Change", five items (1, 8, 9, 11, 12) relate to "Opinion Leadership", five items (2, 3, 5, 14, 18) relate to "Openness to Experience", and two items (16, 19) relate to "Risk Taking". The innovativeness score on the scale is calculated by subtracting the total score of the negative items from the total score of the positive items and then adding 42 to the result (Kılıçer & Odabaşı, 2010). Scores obtained range from 46 and below for traditionalists, 47 to 56 for skeptics, 57 to 68 for inquirers, 69 to 80 for pioneers, and 81 and above for innovators, with scores below 64 indicating low innovativeness (Kılıçer & Odabaşı, 2010). Kılıçer and Odabaşı (2010) calculated the Cronbach's Alpha reliability coefficient as 0.82 for the entire IIS, 0.81 for the "Resistance to Change" sub-dimension, 0.73 for the "Opinion Leadership" sub-dimension, 0.77 for the "Openness to Experience" sub-dimension, and 0.62 for the "Risk Taking" sub-dimension.

2.4. Data Collection Process

In the first stage of data collection, permissions were obtained via email from the researchers who adapted the II scale (Kılıçer & Odabaşı, 2010) and developed the LSALS scale (Gür Erdoğan & Arsal, 2016). In the second stage, necessary permissions were acquired from the Rectorate of Sakarya University and the Sakarya Provincial Directorate of National Education to administer the scales to school administrators. After obtaining these permissions, the scales were administered electronically via Google Forms to the 302 school administrators identified as the sample.

2.5. Data Analysis

The study data were analyzed using SPSS 24.0. The demographic information of the participating school administrators was examined through percentage and frequency distributions. The standard deviation and arithmetic mean were calculated to determine the LLTS tendencies and II levels of the school administrators based on the administered scales. To identify the statistical method to be used in analyzing the LLTS tendencies and II level scores of the school administrators, a normality test was applied to these variables and their sub-dimensions. The skewness and kurtosis coefficients were used to analyze the normality of the scale scores. The test results showed that none of the variables had skewness and kurtosis coefficients within ±1. Based on these results, it was determined that the variables did not meet normality assumptions, and non-parametric tests were used for the analyses (Hair et al., 2013). The Mann-Whitney U test was used to determine if there were differences between two independent groups, and the Kruskal-Wallis H test was used for more than two independent groups. Spearman's rank correlation coefficient was used to examine the relationships between variables. A correlation value of 0.00 indicates no relationship, 0.01-0.29 indicates a low relationship, 0.30-0.70 indicates a moderate relationship, 0.71-0.99 indicates a high relationship, and 1.00 indicates a perfect relationship (Büyüköztürk, 2015).

2.6. Validity and Reliability

The reliability analyses for the LLTS scale in this study resulted in a Cronbach's Alpha coefficient of 0.937 for the entire scale, 0.915 for the "Willingness to Learn" sub-dimension, and 0.85 for the "Openness to Development" sub-dimension. For the Individual Innovativeness Scale, the reliability analyses yielded a Cronbach's Alpha coefficient of 0.87 for the entire scale, 0.89 for the "Resistance to Change" sub-dimension, 0.76 for the "Opinion Leadership" sub-dimension, 0.82 for the "Openness to Experience" sub-dimension, and 0.69 for the "Risk Taking" sub-dimension. A reliability coefficient value of 0.70 or higher for measurement tools collecting data on psychological attitudes indicates that the scores obtained from the scale are sufficiently reliable (Büyüköztürk, 2015). Hence, the scales used in this study can be considered reliable

2.7. Ethics Committee Approval

This research adhered to all the rules specified in the Directive on Scientific Research and Publication Ethics of Higher Education Institutions. The ethical approval for this study was obtained with decision number 05 from the 10th meeting of the Sakarya University Educational Research and Publication Ethics Committee held on September 14, 2022.

3. Results

The findings are presented under the following subsections: 1) Comparison of School Administrators' LLL Tendencies by Demographic Variables, 2) Comparison of School Administrators' II Levels by Demographic Variables, 3) Relationship Between School Administrators' LLL Tendencies and II Levels.

3.1. Comparison of School Administrators' LLL Tendencies by Demographic Variables

The relationship between school administrators' LLL tendencies and variables such as gender, managerial experience, and educational status is provided below.

3.1.1. Comparison of School Administrators' LLL Tendencies by Gender

The results achieved from the Mann-Whitney U test conducted to compare the LLL tendencies of school administrators by gender are presented in Table 2.

Table 2

Comparison of School Administrators' LLL Tendencies by Gender

Subdimensions	Sex	N	Rank Mean	Rank Sum	U	p
Willingness to Learn	Female	82	150.09	12307.50	8904.5	0.854
	Male	220	152.03	33445.50		
Openness to Development	Female	82	153.42	12580.50	8862.5	0.805
	Male	220	150.78	33172.50		
LLL Tendency	Female	82	152.11	12473.00	8970.0	0.939
	Male	220	151.27	33280.00		

Examining Table 2, the results of the Mann-Whitney U test conducted to determine whether there is a significant difference between the LLL tendencies of female and male school administrators indicate that there is no statistically significant difference between the LLL tendencies of female school administrators and those of male school administrators (U=8970, p=0.939).

3.1.2. Comparison of School Administrators' LLL Tendencies by Administrative Experience

The Kruskal-Wallis H test, conducted to compare the LLL tendencies of school administrators in terms of their administrative experience, is presented in Table 3.

Table 3

Comparison of School Administrators' LLL Tendencies by Administrative Experience

Subdimension General	Administrative Experience	N	Rank Mean	s.d.	X^2	p	Diff.
Willingness to Learn	0-10 years	161	152.86	3	2.18	0.53	-
	11-20 years	113	145.12				
	21 years and longer	28	169.23				
Openness to Development	0-10 years	161	148.42	3	0.49	0.91	-
	11-20 years	113	154.78				
	21 years and longer	28	155.59				
LLL Tendency	0-10 years	161	149.86	3	0.62	0.89	-
	11-20 years	113	151.00				
	21 years and longer	28	163.15				

Examining Table 3, it can be stated that the scale scores of school administrators do not show a significant difference in the sub-dimensions of "Openness to Development" ($\chi2$=0.649, p=0.53) and "Willingness to Learn" ($\chi2$=2.18, p=0.91), nor in the overall individual innovativeness tendencies ($\chi2$=0.62, p=0.89) by the variable of years of administrative experience.

3.1.3. Comparison of School Administrators' LLL Tendencies by Educational Status

The Mann-Whitney U test, conducted to compare the LLL tendencies of school administrators according to their educational status, is presented in Table 4.

Tablo 4

Comparison of School Administrators' LLL Tendencies by Educational Status

Subdimensions	Educational Status	N	Rank Mean	Rank Sum	U	p
Willingness to Learn	Undergraduate	214	114.24	30867.00	7862.0	0.015
	Postgraduate	88	169.16	14886.00		
Openness to Development	Undergraduate	214	146.51	31353.00	8348.0	0.101
	Postgraduate	88	163.64	14400.00		
LLE Tendency	Undergraduate	214	144.08	30833.50	7828.50	0.017
	Postgraduate	888	169.54	14919.50		

Examining Table 4, it was determined that there is a statistically significant difference in LLL tendencies by the educational status variable (U=7828.5, p=0.017), with this difference favoring school administrators holding a master's degree. Considering the Mann-Whitney U test results, there is no statistically significant difference in the "Openness to Development" sub-dimension between school administrators with a bachelor's degree and those with a master's degree (U=8343, p=0.101). However, in the "Willingness to Learn" sub-dimension, there is a statistically significant difference favoring school administrators with a master's degree (U=7862, p=0.015).

3.2. Comparison of School Administrators' II Levels by Demographic Variables

The relationship between school administrators' II levels and the variables of gender, administrative experience, and educational status is detailed below.

3.2.1. Comparison of School Administrators' Individual Innovativeness Levels by Gender

The Mann-Whitney U test, conducted to compare the II levels of school administrators by the gender variable, is presented in Table 5.

Table 5

Comparison of School Administrators' II Levels by Gender

Subdimensions	Sex	N	Rank Mean	Rank Sum	U	p
Resistance to Change	Kadın	82	150.95	12378.0	8975.0	0.946
	Erkek	220	151.70	33375.0		
Opinion Leadership	Kadın	82	156.55	12837.5	8605.5	0.534
	Erkek	220	149.62	32915.5		
Openness to Experience	Kadın	82	142.93	11720.5	8317.5	0.268
	Erkek	220	154.69	34032.5		
Risk-Taking	Kadın	82	150.43	12335.0	8932.0	0.879
	Erkek	220	151.90	33418.0		
IIS	Kadın	82	155.66	12764.0	8679.0	0.612
	Erkek	220	149.95	33989.0		

Examining Table 5, the results of the Mann-Whitney U test conducted to determine whether there is a significant difference between the II levels of female and male school administrators indicate

that there is no statistically significant difference between the II levels of female school administrators and those of male school administrators (U=8679, p=0.612).

3.2.2. Comparison of School Administrators' II Levels by Administrative Experience

The Kruskal-Wallis H test, conducted to compare the II levels of school administrators in terms of their administrative experience, is presented in Table 6.

Table 6

Comparison of School Administrators' II Levels by Administrative Experience

Subdimensions General	Administrative Experience	N	Rank Mean	s.d.	X^2	p	Diff.
Resistance to Change	0-10 years	161	156.09	3	7.057	0.070	
	11-20 years	113	154.37				
	21 years and longer	28	108.00				
Opinion Leadership	0-10 years	161	139.79	3	10.735	0.063	
	11-20 years	113	158.08				
	21 years and longer	28	189.53				
Openness to Experience	0-10 years	161	150.11	3	3.733	0.292	
	11-20 years	113	150.20				
	21 years and longer	28	158.41				
Risk-Taking	0-10 years	161	146.49	3	1.836	0.607	
	11-20 years	113	156.16				
	21 years and longer	28	160.83				
IIS	0-10 years	161	150.24	3	0.753	0.861	
	11-20 years	113	154.81				
	21 years and longer	28	141.25				

Examining Table 6, it was observed that the scale scores of school administrators do not show a significant difference in the sub-dimensions of "Resistance to Change" ($\chi2$=7.057, p=0.070), "Opinion Leadership" ($\chi2$=10.735, p=0.063), "Openness to Experience" ($\chi2$=3.733, p=0.292), and "Risk Taking" ($\chi2$=1.836, p=0.607), nor in the overall individual innovativeness tendencies ($\chi2$=0.753, p=0.861) by the variable of years of administrative experience.

3.2.3. Comparison of School Administrators' II Levels by Educational Status

The Mann-Whitney U test, conducted to compare the individual innovativeness levels of school administrators by their educational status, is presented in Table 7.

Table 7

Comparison of School Administrators' II Levels by Educational Status

Subdimensions	Educational Status	N	Rank Mean	Rank Sum	U	p
Resistance to Change	Undergraduate	214	147.50	31564.5	8559.5	0.207
	Postgraduate	88	161.23	14188.5		
Opinion Leadership	Undergraduate	214	142.89	30578.5	7573.5	0.007
	Postgraduate	88	172.44	15174.5		
Openness to Experience	Undergraduate	214	145.66	31170.5	8165.5	0.054
	Postgraduate	888	165.71	14582.5		
Risk Taking	Undergraduate	214	152.31	32595.0	9242.0	0.768
	Postgraduate	888	149.52	31158.0		
IIS	Undergraduate	214	145.63	31164.0	8159.0	0.068
	Postgraduate	888	165.78	14589.0		

Examining Table 7, it can be seen that there is no statistically significant difference in the II levels of school administrators by their educational status (U=8159, p=0.068). However, given the Mann-Whitney U test results, there is a statistically significant difference in the "Opinion Leadership" sub-dimension favoring school administrators with a master's degree (U=7573.5, p=0.007). No statistically significant difference was observed in the "Resistance to Change" (U=8559.5, p=0.207), "Openness to Experience" (U=8165.5, p=0.054), and "Risk Taking" (U=9242, p=0.768) sub-dimensions between school administrators with a bachelor's degree and those with a master's degree.

3.3. Relationship Between School Administrators' LLL Tendencies and II Levels

The Spearman correlation coefficient results, calculated to determine whether there is a relationship between the LLL tendencies and II levels of school administrators, are presented in Table 8.

Table 8

Relationship Between School Administrators' LLL Tendencies and II Levels

		Willingness to Learn	Openness to Development	LLL Tendency
Individual Innovativeness	r_s	.350**	.407**	.416**
	p	.000	.000	.000
	N	302	302	302

Examining Table 8, it can be seen that there is a moderately significant positive relationship between the II levels of school administrators and the "Willingness to Learn" sub-dimension (rs=0.350, p=0.000), as well as the "Openness to Development" sub-dimension (rs=0.407, p=0.000). Examining the scale of LLL tendencies and the total II scores, the relationship was again found to be moderately significant and positive (rs=0.416, p=0.000).

4. Conclusion and Discussion

This study aims to examine the differences in school administrators' LLL tendencies and their II levels by variables such as gender, administrative experience, and educational background, as well as the relationship between their LLL tendencies and II levels. Given the results achieved in this study, there is no difference in the LLL tendencies of school administrators by gender and administrative experience, whereas a significant difference favoring those with a master's degree was observed when considering the educational background. In the relevant literature, different results regarding the LLL tendencies of school administrators by gender were found. A study carried out by Yılmaz and Beşkaya (2018) on educational administrators concluded that the LLL tendencies of administrators varied by gender, with this difference favoring female administrators. Similarly, in a previous study, Özkorkmaz (2016) determined a significant difference in favor of women in the perceived IB competencies of public education center directors. Conversely, a study carried out by Gürkan (2017) revealed that the LLL tendencies of school principals varied by gender, with this difference favoring male administrators. Some studies on teachers reported a difference in LLL tendencies by gender (Çetinkaya, Gülaçtı, Çiftçi & Kağan, 2019; Sevinç & Çelebi, 2020), whereas others reported no such difference (Altın, 2018; Arslan, 2019; Ayaz & Ünal, 2016; Bozkan, 2018; Taş, 2020; Yaman & Yazar, 2015). The differences in study results are thought to be due to the different sample groups and scales used in the studies. Furthermore, the results of studies that reported LLL tendencies by administrative experience and educational background are similar to those reported in this study. Studies carried out by Gürkan (2017) and Yılmaz and Beşkaya (2018) determined that administrators' LLL tendencies did not differ by administrative experience and that the LLL tendencies of administrators with a master's degree were significantly higher than those of administrators with a bachelor's degree. Özkorkmaz (2006) found no change in the II competency perceptions of public education center directors by administrative experience, and studies on teachers found no difference in LLL tendencies by experience (Kaya, 2018; Gedik, 2019; Çetinkaya, Gülaçtı, Çiftçi & Kağan, 2019; Sevinç & Çelebi, 2020). These results suggest that, regardless of gender and experience, individuals' personal attitudes and motivations may influence their LLL tendencies, and their attitudes toward learning may be more decisive. Additionally, the higher LLL tendencies among school administrators with a master's degree may indicate that these administrators are more open to knowledge, constantly willing to improve, and inclined toward innovation. Master's programs generally focus on developing deeper academic knowledge and research skills, which may have contributed to these administrators developing a positive attitude toward continuous learning.

Given the results achieved here, it can be concluded that the II levels of school administrators do not significantly differ by variables such as gender, administrative experience, and educational background. However, there is a significant difference in favor of administrators with a master's degree in the opinion leadership sub-dimension of IIS. Similarly, studies carried out by Çetin (2017) on school administrators and by Başaran and Keleş (2015) and Yüksel (2019) on teachers reported no significant difference in II levels by gender. Additionally, other studies concluded that there is no difference in II levels among teachers concerning experience (Keskin, 2021; Sarı, 2019; Yılmaz, 2019) and educational background (Keskin, 2021). The lack of gender differences in II levels among school administrators may indicate an increased emphasis on gender equality efforts and opportunities in the field of education. Furthermore, the consistency of II levels across different administrative experiences and educational backgrounds suggests that similar opportunities for innovation are provided to administrators at all levels in schools.

The present study also revealed a positive, moderate, and significant relationship between school administrators' LLL tendencies and their II levels. This result can be interpreted to mean that

school administrators' II levels increase with an increase in their LLL tendencies. Supporting studies reported positive and significant relationships between LLL tendencies and II levels among administrators (Gür Erdoğan & Ayanoğlu, 2021; Yılmaz & Beşkaya, 2018), teachers (Gür Erdoğan & Ayanoğlu, 2021; Kılıç & Ayvaz-Tuncel, 2015; Yüksel, 2020), teacher candidates (Öztürk Yurtseven & Aldan Karademir, 2017), and university students (Mülhim, 2018; Biricik, Karababa & Sivrikaya, 2022). The relationship between LLL and II is crucial for school administrators to succeed in a constantly changing world and to create new opportunities. This process can enable administrators to better understand themselves and their surroundings, adapt to changing conditions, and generate creative solutions. Administrators inclined toward LLL generally exhibit a more positive attitude toward change. Those open to change can adopt new information and approaches, thereby improving their II levels. Moreover, LLL can enhance individuals' problem-solving skills. Consequently, when school administrators continually seek new knowledge and strategies to address challenges, these abilities are strengthened, and their IB levels increase.

To strengthen the positive relationship between school administrators' LLL tendencies and II levels, in-service training programs on LLL and innovation could be implemented. These programs can help administrators update their knowledge and skills, learn new management techniques, and encourage innovative thinking. Additionally, schools can offer innovative project opportunities in which school administrators can actively participate. By supporting and actively engaging in innovative projects, administrators can enhance their II levels. This process can also contribute to administrators finding creative solutions to problems and implementing new ideas.

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Ethics Committee Permission:

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