

The Relationship between Intellectual Thinking Tendencies and Creative Leadership of Primary School Administrators

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ABSTRACT

This study aimed to determine the relationship between intellectual thinking tendencies and creative leadership of primary school administrators. In this context, it was tried to investigate how intellectual thinking tendencies influence creative leadership. The study was conducted in the general survey model, which is widely used in quantitative research methods. The participants of study consist of school administrators working in primary schools affiliated to Manisa, Yunusemre District Directorate of National Education. The study was conducted in the fall term of 2022-2023 academic year. The data was collected by "Intellectual Thinking Tendency Scale" and "Creative Leadership Scale" and was analyzed with SPSS 25 package program by taking the significance level as .05. Parametric analysis techniques were used in the analysis of the data. In this meaning: by minimum, maximum, arithmetic mean, and standard deviation values for descriptive statistics; by independent sample t-test for the differences in genders, administrative duties, and administrative seniorities; by One-way ANOVA Analysis for the differences of professional seniorities and professional fields were analyzed. The relation between intellectual thinking tendencies and creative leadership was analyzed with Pearson Correlation Coefficient. According to the results, primary school administrators' intellectual thinking tendencies and creative leadership levels were found as high; according to their genders, administrative duties, administrative seniorities, professional seniorities, and professional fields, no meaningful differences were found. As the last result, the relationship between intellectual thinking tendencies and creative leadership of primary school administrators was observed in high scores.

Key words: Primary School Administrators, Intellectual Thinking, Creative Leadership

INTRODUCTION

Primary school principals play an important role in the management of primary schools. Primary school principals act as leaders of teachers and staff and work to improve the quality of education of students. School principals play an important role as leaders of teachers and other school staff, guiding the education of students. Therefore, school principals should possess a range of skills:

- Leadership skills: As principals are leaders of teachers and other staff, it is important that they have leadership skills. A good leader can create a motivating environment for teamwork and co-operation (Yirci & Demir, 2019).
- Communication skills: School principals should communicate frequently with teachers, staff, students, and parents. Therefore, a good school principal should be an effective listener who can speak clearly and understandably (Akan & Azimi, 2019).
- Planning and organization skills: School principals should have planning and organizational skills to

manage the school's budget, curriculum, teachers, students, and other staff (Şekerci & Aypay, 2009).

- Problem solving skills: School principals should have analytical and critical thinking skills to solve problems at school. This skill will help them to correctly identify, analyze and propose solutions to the problems that arise in the school (Leithwood & Steinbach, 1992).
- Expertise in education: School principals should be experts in education and training. Thus, they can make the right decisions about the school's teaching programs and student performances (Balci, 2021).
- Change management skills: School principals should have change management skills to manage changes in the school and adapt the staff to these changes. This skill will help them to implement innovative ideas in the school (Çelikten, 2001).
- Empathy and emotional intelligence: School principals should have empathy and emotional intelligence skills to communicate effectively with teachers, staff, students, and parents. This skill will help them

to prevent problems in the functioning of the school (Babaođlan, 2010).

School principals working in primary schools are one of the most important factors affecting the success of teachers and students. Therefore, thinking skills and creative leadership abilities of school principals are critical for the success of a school (Cheng, 1994). Thinking skills include principals' decision making, problem solving, analytical thinking and critical thinking skills. These skills help principals to understand complex problems and find the right solutions. In addition, in order to find different solutions to the problems encountered, creative leadership is a leadership approach that enables principals to encourage innovation and change. This approach helps principals to discover the potential of teachers and students and encourage innovative ideas. School principals can better respond to the needs of teachers and students with their thinking skills and creative leadership abilities.

Intellectual Thinking

In our age, it is inevitable for individuals to have high-level thinking skills to access information, interpret information, problem solving skills, and use their ability to produce subjective ideas. These expectations of the developing world make it even more important to provide thinking skills to the new generations to be raised in education systems. Individuals who can use their thinking tendencies and skills in the desired way will be able to make the right decisions in the situations they encounter, adapt to social and democratic society, and make their own unbiased choices. Thus, preferring these tendencies in the right place will facilitate their work in educational and social platforms and will positively affect their success (Dođan Altun & Ekinci Vural, 2017).

Today, intellectual thinking has become an important skill for people to overcome the difficulties they face in business and social life. Intellectual thinking is a process that involves solving complex problems by using analytical, critical, and creative thinking skills, being open to different perspectives and critically evaluating information (Peter, 2012; Voss et al., 1995). This ability helps people to cope with the challenges they may face throughout their lives and to have a deeper understanding of the world. Intellectual thinking includes mental processes such as forming new ideas, interpreting information, evaluating arguments, problem solving and decision making (Kurnaz, 2013). Intellectual thinking is an approach that gives importance to knowledge-based, questioning, free thinking, and self-expression. Intellectual thinking plays an important role in the discovery and development of knowledge and ideas that can be individually and socially beneficial (Veettil & Binu, 2022).

Intellectual thinking, which is considered among the standards of critical thinking among higher-order thinking skills, is defined as "using one's mental ability to manage daily activities as directed by the person, including understanding and solving problems and challenges" (Groves, Vance, & Paik, 2008). In addition, intellectual thinking is a specific logic and problem-solving strategy to explain why

individuals respond differently to problems that need to be solved (Murphy & Janeke, 2009, Nappi, 2017).

Intellectual characteristics, which can be defined within thinking skills, can be defined within structures such as empathy, integrity, courage, humility, and patience. If individuals can recognize inconsistencies in their thoughts, they are defined as having intellectual integrity. If we insist on our own thought structure by disregarding other thoughts and if we put pressure on those around us to think like us, it shows that we cannot think in intellectual integrity. If there is no intellectual common sense in our thinking structure, we cannot have alternative perspectives and solutions to the events we experience and the problems that await us. If we do not have intellectual humility, we do not recognize the shortcomings of our own thoughts and do not accept this situation even if we are warned. If we lack intellectual patience, we cannot be resilient and overcome unexpected problems. All these abilities are generally accepted as indicators of having universal intellectual characteristics (Aybek, 2006; Paul & Elder, 2005).

In conclusion, intellectual thinking has become a critical skill for people today to successfully manage their work and social lives. Therefore, the number of scientific studies on intellectual thinking is increasing. These studies provide important clues on how to develop intellectual thinking skills.

Creative Leadership

Creativity is the ability to create new and original ideas, concepts, products, or processes using existing knowledge, experience, and ideas. Creativity includes characteristics such as a different perspective, innovative thinking, problem-solving ability, flexibility, imagination, originality, and entrepreneurship (Yeşilyurt, 2020). Creativity is a valuable skill in many different fields and is used in business, art, science, technology, entertainment, communication, and many other fields.

Creativity and leadership are two complementary characteristics. A leader should be skilled in generating innovative ideas and result original solutions through creative thinking. In addition, leadership includes skills such as transferring creative ideas to team members, supporting, and motivating them, explaining and managing goals, and measuring and evaluating results (Yalçın, 2021). Leaders should create a favorable environment to encourage creativity. This can be done in various ways, such as providing support to employees, allowing innovative ideas to be expressed freely, and encouraging new ideas. Leaders should also ensure that team members have the necessary resources for creative solutions (Uđurluođlu & Çelik, 2009). Creative leadership not only helps the emergence of innovative ideas, but also inspires team members and makes them feel more committed to their work. Creative leaders encourage teamwork, encourage critical thinking, encourage risk taking and reward innovation (Uslu, 2011). In conclusion, creativity and leadership are two important characteristics that complement each other. While a leader produces innovative solutions to the challenges presented to him/her with creative thoughts, team members have the duty to encourage and support creativity (Yılmaz Karahan, 2010).

Creativity is one of the basic elements of problem – solving ability and effective leadership that positively increases leadership skills. The main theme of creative leadership is the ability to reach other people by overcoming this limitation rather than listening to oneself. Creative leaders who catch emotional clues in school life, perceive the feelings and perspectives of others, and deal with their problems effectively can enrich their empathic design features, which include discovery and innovation, with a great willingness (Uslu, 2011). Creative leadership is the process of reorganizing managerial tasks and managing them with superior ability and success. Creative leadership can be mentioned when a leader who has a broad level of knowledge and education, has the ability of analysis and synthesis, can define problems, and can conceptualize new ways of change (Uçar & Sağlam, 2019). For creative leadership, first, a high cultural background, perseverance, courage, determination, tolerance, free and holistic thinking, visionary perspective that can open brand new horizons for the future, attitude, and behavior integrity, which have an important place in the formation and development of creativity, are necessary (Marşap, 2009).

However, there is a strong relationship between thinking skills and literacy. Literacy is a person's ability to understand, interpret and analyze written texts. Literacy is also important in terms of obtaining information, expressing thoughts, understanding others' thoughts, and developing critical thinking skills (Barut & Gündoğdu, 2023; Roberts & Billings, 2009). Thinking and literacy are two important concepts that strengthen each other. While literacy develops thinking skills, thinking forms the basis of literacy. Therefore, it is important to both promote literacy and support thinking skills for the professional development of school administrators (Tommasi et al., 2023; Vidergor, 2023). A literate administrator can obtain information from the texts he/she reads on various subjects, explore different perspectives, and produce creative solutions by combining this information. Literacy helps primary school administrators to develop their mental flexibility and creative thinking skills (Safford & Barrs, 2005; Perkins, 2004).

There is a strong relationship between creative leadership, thinking skills and creativity skills. Creative leaders provide opportunities for team members to develop critical thinking, problem solving and creativity skills. These skills help a team to be successful and contribute to the development of individual employees (Basadur, 2004). Critical thinking is the ability to think logically and analytically about an issue. Creative leaders encourage team members to think critically and offer different perspectives to give them a new perspective. This helps other members in the school to make better decisions, solve problems more effectively and be more creative (Saylık, 2015). The same applies to problem solving, which refers to the skills used to solve a specific problem. Creative leaders provide opportunities for team members to develop their problem-solving skills and encourage them to take risks. This helps other members of the school to solve problems in ways that have not been tried before and to

develop more creative ideas (Rickards & Moger, 2000). In conclusion, creative leadership and thinking skills are two complementary characteristics. Creative leaders help team members to develop critical thinking, problem solving and creativity skills. While these skills increase the performance of the team, they also contribute to the personal development of employees (Girgin, 2022).

Objective and Research Questions

The objective of this study is to test the relationship between intellectual thinking tendencies and creative leadership of primary school administrators.

To meet this objective, the following research questions were posed:

1. In what level the intellectual thinking tendencies and creative leadership of primary school administrators are?
2. Is there a significant difference in both intellectual thinking tendencies and creative leadership of primary school administrators according to their genders?
3. Is there a significant difference in both intellectual thinking tendencies and creative leadership of primary school administrators according to their administrative duties?
4. Is there a significant difference in both intellectual thinking tendencies and creative leadership of primary school administrators according to their administrative seniorities?
5. Is there a significant difference in both intellectual thinking tendencies and creative leadership of primary school administrators according to their professional seniorities?
6. Is there a significant difference in both intellectual thinking tendencies and creative leadership of primary school administrators according to their professional fields?
7. Is there a relation between intellectual thinking tendencies and creative leadership of primary school administrators?

METHOD

In this section, the research model, participants, data collection tools, data collection process, data analysis and ethical procedures are explained.

Model of the Study

This study was conducted by general survey model which is commonly used in quantitative research methods. According to Büyüköztürk et al. (2013) the subject of the study can be observed, measured, and analyzed easily by the help of quantitative research method which is in a positivist approach. Additionally, the general survey model allows conducting the study by reaching the whole population or by the sample which represents the population (Karasar, 2012; Şimşek, 2012). General survey model successfully reflects the reality by reaching whole population or getting suitable sample from the population of the study.

Participants

School administrators working in primary schools affiliated with Manisa Yunusemre District National Education Directorate were determined as the Study population of the study. A total of seventy people – three school principals and vice principals were working in those primary schools in the autumn term of the 2022 – 2023 Education Year. The sampling of the study was got by using a stratified sampling method according to their administrative duties first and then their genders. As the necessity of the stratified sampling method, at least two criteria should be handled, and the sampling created from those criteria. In this study the sampling criteria have been determined according to administrative duties first and then gender as mentioned. And, the number of samplings has been constituted by the guidance of Şahin’s (2012) calculation sampling table. The study applied with a total sixty – of eight school principals and vice principals according to a 95% confidence level and 5% error margin calculation. The population and sampling numbers have been given in Table 1.

Data Collection Tools

The study, which is about the relationship between intellectual thinking tendencies and creative leadership of primary school administrators, were held by the help of two data collection tools. The first data collection tool is “*Intellectual Thinking Tendency Scale*” (Yoldaş & Merç, 2018) and the second one is “*Creative Leadership Scale*” (Ada, 2022).

Intellectual Thinking Tendency Scale (Yoldaş & Merç, 2018) was developed for the purpose of determining the global intellectual characteristics of the participants. While

creating the items of the scale the critical thinking standards (Paul & Elder, 2005) was held as the base of the structure. In this meaning the learning outcomes of intellectual thinking were cared for the items of the scale. At the beginning of the scale development process 53 items were written and expert opinions were requested. After getting the expert views and corrections, the pre application has been held by 300 teacher candidates from senior classes of MCBU, Faculty of Education in 2018 spring term as in 5 – degree Likert’s Type. According to the pre-application 13 items, which were below.30 as the item total correlation point, were eliminated. Then for looking the remaining 40 items’ suitability to factor extractions, the Kaiser – Meyer – Olkin (KMO) sample adequacy test and Bartlett’s Test of Sphericity have been applied. By the results the KMO=.90 value and Bartlett’s Test of Sphericity score (4755.19, $p < .05$), the decision was made for continuing factor analysis with those 40 items. First exploratory factor analysis (EFA) was applied with those 40 items and three factored structures were seen. Doing the exploratory factor analysis 11 factors were found at first. The eigenvalues of the first three factors within 11 factored structures were found as 11.25 – 2.49 and 1.79 by explaining 38.76 percentage of the total variance. So, it was thought that, except the first three ones, the other factors which have low eigenvalues had no sensible structure and 10 items were eliminated because of their low eigenvalues. Then exploratory factor analysis was repeated with those 30 items in those three factors and their eigenvalues were found orderly as 8.85 – 2.39 and 1.73 by explaining 43.24 percentage of the total variance. After these processes confirmatory factor analysis (CFA) was held to verify the three factored structure. According to the CFA results

Table 1. The population and sampling of the study

Administrative Duties	Population of the study			Sampling of the study		
	N (Female)	N (Male)	N (Total)	n (Female)	n (Male)	n (Total)
School Principals	3	25	28	3	23	26
Vice Principals	14	31	45	13	29	42
TOTAL	17	56	73	16	52	68

AQ2 Table 2. Intellectual thinking tendency levels of primary school administrators

Dimensions/Scale	n	Minimum	Maximum	Mean	SD
Intellectual Empathy	68	41	60	52.27	4.858
Intellectual Awareness	68	35	55	45.23	5.186
Intellectual Determination	68	18	35	28.27	4.066
Intellectual Thinking Tendency	68	99	150	125.79	12.920

AQ2 Table 3. Creative leadership levels of primary school administrators

Dimensions/Scale	n	Minimum	Maximum	Mean	SD
Focus on Change and Transformation	68	137	215	184.10	18.039
Focus on Coaching and Collaboration	68	57	95	80.42	9.373
Focus on Problem Solving and Critical Thinking	68	81	125	108.11	11.293
Focus on Professional and Personal Development	68	59	100	87.33	9.131
Creative Leadership	68	346	535	459.98	44.921

($X^2= 990.07 - SD= 402 - X^2/SD= 2.46 - RMSEA=.07 - CFI=.81 - TLI=.90$) the three factored structure of the scale was verified. The factors were named as Intellectual Empathy, Intellectual Awareness, and Intellectual Determination. For the reliability of the scale Cronbach Alpha internal consistency coefficient value was found .91 for the whole of the scale, .84 for the first factor, .83 for the second factor and .85 for the third factor. The final version of the scale was served for the usage with this structure.

Creative Leadership Scale (Ada, 2022) was developed for the purpose of determining creative leadership features of school administrators and teachers as education stakeholders. The data were obtained from 555 participants working as school administrators and teachers in Eskişehir Province in 2019 – 2020 Education Year. Before creating the scale items, the literature was scanned, and an item pool was created using the Lawshe technique. 18 open ended questions were asked to academicians, school administrators and teachers for writing items to the item pool. By the help of their answers pre – form items were written. Then, within the scope of content validity, the opinions of five faculty members who are experts in the field of education on the items were taken through the Lawshe technique. The items that did not meet the criteria were removed from the scale, and the scale was given its final form before the application with 161 items. Kaiser – Meyer – Olkin (KMO) test to determine the adequacy of the data set for factor analysis; Measures of Sampling Adequacy (MSA) test to determine the suitability of scale items for factor analysis; The Barlett Test of Sphericity was used to determine whether the data had a multivariate normal distribution. Since the KMO value is greater than 0.50 and the Barlett Test is significant at the 0.05 significance level, it was observed that the data are highly suitable for factor analysis and that the scale variables can accurately predict each other according to the KMO value obtained (KMO=0.964, X^2 Barlett test (5671) = 40508.971 $p=.000$). When the Measures of Sampling Adequacy values, which determine the suitability of the scale items for factor analysis, were examined, the MSA value of the 126th item was found to be 0.447. Since the MSA value of this item was less than 0.50, this item was removed from the analysis and the factor analysis was performed again. As a result of the renewed factor analysis, since the MSA values of the other items were not less than 0.50, it was determined that the other items of the scale were suitable for factor analysis. The result of the Barlett's Test of Sphericity, which was performed to determine whether there is a sufficient relationship between the data and whether the data have a multivariate normal distribution, was found to be 40508.971 $p=.000$ ($p<.01$). The obtained value showed that the variable measured in the universe parameter was multivariate and the items of the scale were suitable for factor analysis. Based on the results, the factor loading values of the scale were examined after the items that were below the KMO value of 0.50, were single in a factor, had factor weights close to each other, and had a factor weight value of less than 0.45 from the analysis. According to the results of the analysis, 54 items were removed from the scale, and four sub – factors with

eigenvalues of “1 and above” were obtained from 107 items with significant results. According to the results of exploratory factor analysis within the scope of construct validity; the first factor's variance rate was 16.796%, its eigenvalue was 43.559, the second factor's variance rate was 12.570, its eigenvalue was 4.729, the third factor's variance rate was 11.306%, its eigenvalue was 3.182, the fourth factor's variance rate was 10.100%, and its eigenvalue was 2.857. Factors were named as; Focus on Change and Transformation (43 items), Focus on Coaching and Collaboration (19 items), Focus on Problem Solving and Critical Thinking (25 items), Focus on Professional and Personal Development (20 items). It was seen that the correlations between the factors take between 0.706 and 0.799, and the correlation values between the total scale and the factors have positive significant values at a significance level of 0.01, varying between 0.877 and 0.924. According to the Results obtained, it was interpreted that there was a significant and positive relationship between the sub – factors and factor – total scale scores of the scale for the study group. The Cronbach Alpha coefficients calculated for the factors related to the reliability study of the Creative Leadership Scale were found to be between 0.947 and 0.967. Based on the obtained Cronbach's Alpha values, it was decided that the scale was reliable. According to the test – retest analysis, the Pearson Correlation Coefficient values of the factors of the scale ranged between 0.937 and 0.809, while the total scale scores were 0.893. As a result of the analysis, it was seen that the consistency of the test – retest applications of the scale was high for the factors of the scale and the total scale. So, the final version of the scale was served for the usage with its 4 sub dimensions structure and 107 items.

Data Collection Process and Data Analysis

When researchers began to give interest to the intellectual thinking tendencies and creative leadership of school administrators especially who work in primary schools, the study was begun. During the internship periods of senior classes, intellectual thinking tendencies and creative leadership of school administrators took attention of the researchers. With this interest researchers have determined two scales about these subjects and decided to examine the relationship between intellectual thinking tendencies and creative leadership. Then the usage of the scale permissions was got from the authors of the scale. After the formal ethic permission procedures (MCBU Ethics Committee – 23.06.2022 – E – 050.01.04 – 328869), the data was collected as online with the help of Microsoft Forms. The data collection forms were prepared within three parts which were named as personal information, intellectual thinking tendencies and creative leadership. The data were collected with the voluntary attendance of the school administrators as the number specified in the population and sampling part.

The data, which were collected from 68 school administrators as the participants of the study, were analyzed with SPSS 25 packet program by taking significance level as .05. According to both Kolmogorov Smirnov Test and Shapiro – Wilk Test, the total points of Intellectual Thinking Tendency

Scale distribute normally ($p > .05$) with its skewness and kurtosis values (between -1.5 and +1.5). While Creative Leadership Scale total points ($p < .05$) not normally distributing its skewness and kurtosis values (between -1.5 and +1.5) show normal distribution. So as Tabachnick and Fidell (2019) mentioned, the data were regarded as normal distributed according to the skewness and kurtosis values and analyses was done with parametric tests. According to in order of research questions: descriptive statistics was analyzed by using minimum, maximum, arithmetic mean, and standard deviation values; the differences of genders, administrative duties and administrative seniorities was analyzed by using independent sample t-Test; the differences of professional seniorities and professional fields was analyzed by using One-way ANOVA Analysis. The relation between intellectual thinking tendencies and creative leadership, belongs to seventh research question, was analyzed with Pearson Correlation Coefficient.

RESULTS

In the context of the problem statement, the research questions were analyzed and the results were given in this part.

First Research Question Results

The first research questions was “In what level the intellectual thinking tendencies and creative leadership of primary school administrators are?” and the Results was given by following to:

The arithmetic means of school administrators’ total “Intellectual Thinking Tendency” score was found 125.79 (mostly). The means for the sub – dimensions are 52.27 (always) for “Intellectual Empathy”, 45.23 (mostly) for “Intellectual Awareness”, 28.27 (mostly) for “Intellectual Determination”. The lowest total “Intellectual Thinking Tendency” scores was found 99 (sometimes) and highest score was 150 (always).

The first three highest arithmetic means for the whole scale are 4.60 (always) for the item “*I respect different opinions*” – 4.57 (always) for the item “*I understand the importance of scientific thinking*” – 4.57 (always) for the item “*I value accuracy and fairness in thoughts*”.

The last three lowest arithmetic means for the whole scale are 3.90 (mostly) for the item “*I disagree with the majority opinion when supported by evidence*” – 3.85 (mostly) for the item “*I make deep investigations to answer complex problems*” – 3.84 (mostly) for the item “*I devote enough time to solving complex problems*”.

The arithmetic means of school administrators’ total “Creative Leadership” score was found 459.98 (always). The averages for the sub – dimensions are 184.10 (always) for “Focus on Change and Transformation”, 80.42 (always) for “Focus on Coaching and Collaboration”, 108.11 (always) for “Focus on Problem Solving and Critical Thinking”, 87.33 (always) for “Focus on Professional and Personal Development”. The lowest total “Creative Leadership” scores was found 346 (sometimes) and highest score was 535 (always).

The first three highest arithmetic means for the whole scale are 4.65 (always) for the item “*I am aware of the importance of my work.*” – 4.63 (always) for the item “*I am fair*” – 4.56 (always) for the item “*I am a facilitator*”.

The last three lowest arithmetic means for the whole scale are 4.04 (mostly) for the item “*I make a difference*” – 4.04 (mostly) for the item “*I have effective communication skills*” – 3.97 (mostly) for the item “*I impress with my presentation*”.

Second Research Question Results

The second research questions was “Is there a significant difference in both intellectual thinking tendencies and creative leadership of primary school administrators according to their genders?” and the Results was given by following to:

School administrators’ intellectual thinking tendency and creative leadership total points showed no meaningful differences according to their genders. In Table 4, independent sample t – test Results had no meaningful differences in Intellectual Thinking Tendency ($t [66] = .980; p > .05$) and in Creative Leaderships ($t [66] = 1.261; p > .05$).

Third Research Question Results

The third research questions were “Is there a significant difference in both intellectual thinking tendencies and creative leadership of primary school administrators according to their administrative duties?” and the Results was given by following to:

School administrators’ intellectual thinking tendency and creative leadership total points showed no meaningful differences according to their administrative duties. In Table 5, independent sample t – test Results had no meaningful differences in Intellectual Thinking Tendency ($t [66] = -.339; p > .05$) and in Creative Leaderships ($t [66] = -.202; p > .05$).

Fourth Research Questions Results

The fourth research questions was “Is there a significant difference in both intellectual thinking tendencies and creative leadership of primary school administrators according to their administrative seniorities?” and the results was given by following to:

School administrators’ intellectual thinking tendency and creative leadership total points showed no meaningful differences according to their administrative seniorities. In Table 6, independent sample t – test Results had no meaningful differences in Intellectual Thinking Tendency ($t [66] = .409; p > .05$) and in Creative Leaderships ($t [66] = .627; p > .05$).

Fifth Research Questions Results

The fifth research questions was “Is there a significant difference in both intellectual thinking tendencies and creative leadership of primary school administrators according to their professional seniorities?” and the Results was given by following to:

School administrators’ intellectual thinking tendencies and creative leaderships showed no meaningful differences

according to the professional seniorities. In Table 7, Results of one-way ANOVA analyses had no meaningful differences in Intellectual Thinking Tendency ($F=139, p>.05$) according to professional seniorities; 6-10 years ($M=126.33$), 11-15 years ($M=124.07$), 16 years and above ($M=126.16$). Additionally, Results of one-way ANOVA analyses had no meaningful differences in Creative Leadership ($F=116, p>.05$) according to professional seniorities; 6-10 years ($M=457.75$), 11-15 years ($M=465.38$), 16 years and above ($M=458.97$).

Sixth Research Questions Results

The sixth research questions was “Is there a significant difference in both intellectual thinking tendencies and creative

leadership of primary school administrators according to their professional fields?” and the Results was given by following to:

School administrators’ intellectual thinking tendencies and creative leaderships showed no meaningful differences according to the professional fields. In Table 8, Results of one – way ANOVA analyses had no meaningful differences in Intellectual Thinking Tendency ($F=388, p>.05$) according to professional fields; Language ($M=132.5$), Turkish & Mathematics ($M=126.73$), Science ($M=122.5$), Social Sciences ($M=123.65$), Gifted ($M=126.93$). And Results of one-way ANOVA analyses had no meaningful differences in Creative Leadership ($F=792, p>.05$) according to professional fields; Language ($M=465$), Turkish & Mathematics

Table 4. Independent sample t-test of primary school administrators’ intellectual thinking tendency and creative leadership levels according to their genders

Scale	Genders	n	Mean	SD	t-test		
					t	df	p
Intellectual Thinking Tendency	Female	16	128.56	13.725	0.980	66	0.331
	Male	52	124.94	12.679			
Creative Leadership	Female	16	472,31	41,950	1.261	66	0.212
	Male	52	456,19	45,508			

Table 5. Independent sample t-test of primary school administrators’ intellectual thinking tendency and creative leadership levels according to their administrative duties

Scale	Administrative Duties	n	Mean	SD	t-test		
					t	df	p
Intellectual Thinking Tendency	School Principal	26	125.11	12.127	-0.339	66	0.736
	Vice Principal of the School	42	126.21	13.515			
Creative Leadership	School Principal	26	458.57	37.097	-0.202	66	0.841
	Vice Principal of the School	42	460.85	49.561			

Table 6. Independent sample t-test of primary school administrators’ intellectual thinking tendency and creative leadership levels according to their administrative seniorities

Scale	Administrative Seniorities	n	Mean	SD	t-test		
					t	df	p
Intellectual Thinking Tendency	4 years and below	23	126.69	2.598	0.409	66	0.684
	5 years and above	45	125.33	1.977			
Creative Leadership	4 years and below	23	464.78	10.034	0.627	66	0.533
	5 years and above	45	457.53	6.492			

Table 7. One – way ANOVA analyses of primary school administrators’ intellectual thinking tendency and creative leadership levels according to their professional seniorities

Scale	Professional Seniorities	n	Mean	SD	F	p
Intellectual Thinking Tendency	6-10 years	12	126.33	12.942	0.139	0.870
	11-15 years	13	124.07	13.990		
	16 years and above	43	126.16	12.859		
Creative Leadership	6-10 years	12	457.75	57,863	0.116	0.890
	11-15 years	13	465.38	48,085		
	16 years and above	43	458.97	40,865		

($M=471.26$), Science ($M=439$), Social Sciences ($M=453.3$), Gifted ($M=454.62$).

Seventh Research Questions Results

The seventh research questions was “Is there a relation between intellectual thinking tendencies and creative leadership of primary school administrators?” and the Results was given by following to:

In Table 9, high correlational relationship ($r_s=.792$, $p=.000$) was found between Intellectual Thinking Tendencies and Creative Leadership of Primary School Administrators

according to Pearson Correlation Coefficient. The highest three relationships are between Intellectual Thinking Tendency – Focus on Coaching and Collaboration ($r_s=.765$, $p=.000$), Intellectual Thinking Tendency – Focus on Problem Solving and Critical Thinking ($r_s=.765$, $p=.000$) and Intellectual Empathy – Creative Leadership ($r_s=.761$, $p=.000$). And, the lowest three relationships are between Intellectual Determination – Focus on Problem Solving and Critical Thinking ($r_s=.652$, $p=.000$), Intellectual Determination – Focus on Change and Transformation ($r_s=.647$, $p=.000$) and Intellectual Determination – Focus on Professional and Personal Development ($r_s=.637$, $p=.000$).

Table 8. One-way ANOVA analyses of primary school administrators’ intellectual thinking tendency and creative leadership levels according to their professional fields

Scale	Professional Fields	n	Mean	SD	F	p
Intellectual Thinking Tendency	Language	2	132.50	3.535	0.388	0.816
	Turkish & Mathematics	26	126.73	13.814		
	Science	4	122.50	6.806		
	Social Sciences	20	123.65	10.658		
	Gifted	16	126.93	15.989		
Creative Leadership	Language	2	465.00	50.911	0.792	0.535
	Turkish & Mathematics	26	471.26	46.539		
	Science	4	439.00	10.984		
	Social Sciences	20	453.30	32.468		
	Gifted	16	454.62	58.647		

Table 9. Pearson correlation coefficient of intellectual thinking tendencies and creative leadership of primary school administrators.

Relations between Dimensions/Scales	n	r_s	p
Intellectual Empathy - Focus on Change and Transformation	68	0.698	0.000
Intellectual Awareness - Focus on Change and Transformation	68	0.657	0.000
Intellectual Determination - Focus on Change and Transformation	68	0.647	0.000
Intellectual Thinking Tendency - Focus on Change and Transformation	68	0.730	0.000
Intellectual Empathy - Focus on Coaching and Collaboration	68	0.714	0.000
Intellectual Awareness - Focus on Coaching and Collaboration	68	0.696	0.000
Intellectual Determination - Focus on Coaching and Collaboration	68	0.689	0.000
Intellectual Thinking Tendency - Focus on Coaching and Collaboration	68	0.765	0.000
Intellectual Empathy - Focus on Problem Solving and Critical Thinking	68	0.760	0.000
Intellectual Awareness - Focus on Problem Solving and Critical Thinking	68	0.684	0.000
Intellectual Determination - Focus on Problem Solving and Critical Thinking	68	0.652	0.000
Intellectual Thinking Tendency - Focus on Problem Solving and Critical Thinking	68	0.765	0.000
Intellectual Empathy - Focus on Professional and Personal Development	68	0.690	0.000
Intellectual Awareness - Focus on Professional and Personal Development	68	0.657	0.000
Intellectual Determination - Focus on Professional and Personal Development	68	0.637	0.000
Intellectual Thinking Tendency - Focus on Professional and Personal Development	68	0.724	0.000
Intellectual Empathy - Creative Leadership	68	0.761	0.000
Intellectual Awareness - Creative Leadership	68	0.714	0.000
Intellectual Determination - Creative Leadership	68	0.697	0.000
Intellectual Thinking Tendency - Creative Leadership	68	0.792	0.000

DISCUSSION AND CONCLUSION

In this study, in which the relationship between intellectual thinking tendencies and creative leadership of primary school administrators was examined on different variables, the Results obtained regarding the problem situation and research questions were discussed in this section and the results obtained were discussed and shared with different studies.

The first research questions were “At what level are the intellectual thinking tendencies and creative leadership of primary school administrators?”. The arithmetic mean of the total “Intellectual Thinking Tendency” score of the school administrators was 125.79 (mostly). The averages for the sub-dimensions were as follows; 52.27 for “Intellectual Empathy” (always), 45.23 for “Intellectual Awareness” (mostly), 28.27 for “Intellectual Determination” (mostly). The lowest total “Intellectual Thinking Tendency” score was 99 (sometimes) and the highest score was 150 (always). These Results showed that the intellectual thinking tendencies of primary school administrators have a high average. These results were like the results obtained for different thinking skills. Study on the thinking skills of primary school administrators showed that administrators have high averages of skills such as strategic planning, problem solving, critical thinking, decision making, creative thinking and analytical thinking (Barfield, 1989; Pang & Pisapia, 2012; Akbıyık & Kalkan Ay, 2014; Özgenel, 2018). Study showed that administrators’ thinking skills are directly related to student achievement (Levent & Yazıcı, 2014; Ceylan, 2019; Alsarayreh, 2023; Rahardjanto et al., 2019). It is observed that administrators with good thinking skills exhibit more effective leadership in the school environment, increase the motivation of teachers, support students’ learning processes and achieve better results in the school.

Similarly, the arithmetic mean of the total “Creative Leadership” score of primary school administrators was 459.98 (always). The means for the sub-dimensions were as follows; 184.10 (always) for “Focus on Change and Transformation”, 80.42 (always) for “Focus on Coaching and Collaboration”, 108.11 (always) for “Focus on Problem Solving and Critical Thinking”, 87.33 (always) for “Focus on Professional and Personal Development”. The lowest total “Creative Leadership” score was 346 (sometimes) and the highest score was 535 (always). These high averages were supported by the Study that examine school administrators’ creative abilities such as creative leadership skills, innovative thinking, problem solving, visioning, and leadership for change. In a study conducted by Runco and Jaeger (2012), the relationship between school administrators’ creativity levels and leadership activities was analyzed. In the study, it was found that creative leadership behaviors of administrators increase teachers’ motivation and encourage innovative work in the school environment. In a study conducted by Joo et al. (2017), the effects of school administrators’ creative leadership skills on teachers’ job satisfaction, commitment and innovation behaviors were examined. The Results showed that administrators’ creative leadership skills are high and positively affected teachers’ job satisfaction and

commitment and encouraged innovation behaviors. A meta-analysis study conducted by Tierney and Farmer (2011) examined the impact of creative leadership skills on teachers’ innovation behaviors. The study showed that school administrators’ creative leadership skills positively affect teachers’ innovation behaviors and contributed to the spread of innovative practices in schools. These studies also supported the results of this study.

With the other five research questions, “Is there a significant difference in both intellectual thinking tendencies and creative leadership of primary school administrators according to their genders, administrative duties, administrative seniorities, professional seniorities and seniorities fields?” and it was concluded that there was no significant difference according to the sub-dimensions of all scales. There were different studies conducted to determine the differences between the thinking skills and creative leadership of primary school administrators according to their gender, administrative duties, administrative seniorities, professional seniorities, and professional fields. According to the studies, gender influences administrators’ thinking skills and creative leadership. For example, one study found that female managers have higher problem solving and communication skills than male managers (Burke & Collins, 2001). There were also studies examining the effect of managers’ graduation status on their thinking skills and creative leadership. One of these studies revealed that administrators with master’s or doctoral degrees have higher thinking skills and creative leadership characteristics (Öztürk & Zembat, 2015). According to the results obtained in other studies related to administrative duties and seniority, which is another variable of the Study, it was concluded that administrative duties and seniority of administrators can be effective on their thinking skills and creative leadership. For example, in one study, it was determined that senior administrators had more developed strategic thinking and visioning skills (Bilgin, 2021). In another research questions, the professional experience of school administrators was used as a variable. Study showed that experienced administrators can solve problems more effectively and produce innovative solutions (Nartgün & Burukoğlu, 2020). In some studies, it was concluded that managers’ fields (e.g., education, psychology, administration) can make differences on their thinking skills and creative leadership. For example, a study found that administrators specialized in education were more creative in terms of teaching strategies (Şakar, 2016). These studies differ from our Results. However, the results of these studies may sometimes be contradictory, and it may be difficult to generalize. More Study is needed to determine the influencing factors on administrators’ thinking skills and creative leadership.

In the last research questions of the study, the answer to the question “Is there a relationship between intellectual thinking tendencies of primary school administrators and their creative leadership?” was sought and a high relationship was found between intellectual thinking tendencies of primary school administrators and creative leadership. Some studies examining the relationship between the thinking tendencies and creative leadership of primary school

administrators also supported these results. In a study conducted by Zhu et al. (2019), the relationship between school administrators' thinking skills and their creative leadership was examined. The Results showed that managers' intellectual thinking skills positively affect their creative leadership behaviors. It was found that administrators who have analytical thinking, critical thinking and problem-solving skills have a higher tendency to exhibit creative leadership. Eisenbeiß and Boerner (2013) examined how school administrators' intellectual thinking tendencies affect their creative leadership skills. The study revealed that administrators' intellectual curiosity, critical thinking and analytical thinking skills increase their tendency to exhibit creative leadership behaviors. These studies show that intellectual thinking skills of administrators can affect their creative leadership behaviors. It was observed that managers with intellectual thinking skills tend to exhibit creative leadership characteristics such as problem solving, innovation and visioning more effectively. However, further Study needs to be conducted and this relationship needs to be analyzed in different contexts.

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