

Examining the Relationship Between School Principals' Self-Directed Learning Readiness and Competency-Based Job Performance Perceptions

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Abstract

This study examined the relationship between school principals' readiness for self-directed learning and their perception of job performance. The study covers public and private secondary school principals affiliated with the Ministry of National Education serving in Istanbul in the 2021-2022 academic year. The data obtained from 316 randomly selected principals were expanded with data collected from 406 principals. The data were transferred to the SPSS 28™ program, missing and incorrect data were checked, 22 data were eliminated with extreme value analysis, and then normality tests were performed. The analyses show that there is a high level of positive relationship between the level of school principals' self-directed learning readiness and their perceptions of job performance. The level of school principals' self-directed learning readiness and job performance perceptions are generally at a medium level and are positive in terms of sub-dimensions. It was found that female school principals have higher levels of self-directed learning readiness and job performance perceptions than males. It was determined that private school principals received higher scores than public school

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principals. No significant difference was found according to age and education level, but differences were observed according to age groups in the dimension of desire to learn. In line with the research findings, the recommendations of the study includes organizing education programs to improve school principals' self-directed learning skills, developing digital education materials such as podcast, short videos, blogs, bulletin related to school principals' professional development, organizing conferences and seminars related to issues that principals face in the school systems, using social-media groups to enhance communications and support principals' job performance.

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Introduction

The global changes and transformations experienced in the world have affected many organizations, making it necessary for organizational members to constantly update their skills and knowledge (Guglielmino & Roberts, 1992; Wang et al., 2021). One of these organizations undoubtedly includes educational institutions, employees at educational institutions should continuously develop their knowledge and skills in response to ongoing changes and transformations. Self-directed learning stands out as an important skill



that supports professional development and facilitates individuals' adaptation to changing needs. In adult education, employees' resort to self-directed learning which is defined as the management of the learning process by the individual and defined by Malcolm Knowles (1975):

“It [self-directed learning] is the individual’s ability to define their learning needs with or without the help of others, to establish learning goals, to identify the resources required for learning, to select appropriate learning strategies, and to evaluate the results of their learning” (Knowles, 1975, p. 18).

Individuals must be highly prepared for self-directed learning to be effective (Long & Redding, 1991; Long & Confessore, 1992) and should have the necessary attitudes, skills, and personality traits (Wiley, 1983). Self-directed learning enables individuals to acquire lifelong skills and develop learning strategies, which is becoming an increasingly important skill in adult education (Knowles, 1975; Brockett & Hiemstra, 1991). Many studies (Caruso, 2018; Lejeune et al., 2021; Vithayaporn et al., 2021; Wang et al., 2021) show a positive relationship between self-directed learning and job performance.

In educational institutions, it is of great importance for school principals to adopt self-directed learning in order to effectively adapt to organizational transformation processes (Knowles, 1975; Long & Confessore, 1992). Gümüşeli (2014) emphasizes that school principals should be aware of the ever-changing nature of their roles and competencies under the influence of global changes. In this context, self-directed learning is becoming an indispensable requirement for the professional development of school principals.



On the other hand, competencies have a critical impact on performance, therefore competency-based job analysis are important for organizations (Author & Author, XXX), The list of school principals' standards and expected performance indicators developed by Pont (2013) for the study of the Organization for Economic Cooperation and Development [OECD], but there was no scale that examines the school principals' own perceptions of their performance based on their competencies, therefore, a measurement tool is developed by Çamur & Gogus (2023) to examine school principals' competence-based job performance.

Literature Review

Research on the preparation and development processes of school principals has increased over the last 15 years (Ringling et al., 2021). The OECD's 2018 TALIS survey found that 99% of school principals participated in professional development and 90% said it was critical to their careers (OECD, 2020). Additionally, Hess and Kelly (2007) reported that 96% of school principals believed that informal learning methods such as work experience and peer mentoring were more effective than formal training.

Research (e.g., Argün, 2021; L. M. Guglielmino et al., 1987) has shown that individuals with a high level of self-directed learning skills exhibit higher performance in jobs that require problem solving, creativity, and change. In addition, it has been supported by scientific studies that learning provides a competitive advantage in organizations and that appropriate learning environments can increase individual and organizational performance (Ellinger et al., 2004; Pfeffer & Veiga, 1999). The relationship between self-directed learning skills and job performance has also been emphasized in studies of many large

companies (Ellinger et al., 2004; Guglielmino & Guglielmino, 1994; Pfeffer & Veiga, 1999).

The professional development of school principals plays a critical role in improving the quality of education systems. Studies (OECD, 2008; Jiang et al., 2017) show that the development of principals is directly related to school success. While formal training programs are common, informal learning opportunities are becoming increasingly important (Gomez et al., 2020). International literature emphasizes that informal learning of school principals is as effective as, or even more effective than, formal learning (Jiang et al., 2017; Gomez et al., 2020; Ringling et al., 2020; Zhang & Brundrett, 20109).

In Turkey, studies on self-directed learning are generally limited to teacher candidates and university students. Karataş (2013) and Bakaç & Özen (2018) examined the levels of teacher candidates' readiness for self-directed learning. In these studies, the "Self-directed Learning Readiness Scale" developed by Fisher King and Tagua (2001) and adapted to Turkish by Şahin & Erden (2009) and the "Technopedagogical Education Competence Scale" by Kabakçı-Yurdakul et al. (2012) were used. There is no study examining the relationship between self-directed learning and performance with school principals in Turkey. In the international literature that examine the relationship between self-directed learning and performance, Chien Yu (1998) found a low positive relationship among high school principals, while Guglielmino and Hillard (2007) discovered a strong positive relationship. Zsiga and Webster (2007) emphasized that self-directed learning skills will increase the success of students and employees.

There are a limited number of studies in the literature examining the relationship between self-directed learning and job performance (Yu,



1998; Lejeune, Beausaert & Raemdonck, 2021). The fact that there is no research addressing this relationship in Turkey increases the originality and importance of this study. This study aims to make theoretical and practical contributions to the literature by examining the effect of self-directed learning on the professional development and job performance of school principals.

Study Context

In countries where school administration is not a professional profession, a teaching background is a sufficient criterion to become a school administrator. Therefore, school administrators appointed without formal education develop their professional skills through in-service experience. For educational organizations to achieve their goals, school administrators need to be competent in many areas. Examining the competency-based job performance indicators of school administrators is of great importance in terms of determining expectations and professional development needs (Çamur & Gogus, 2023).

As the study context, the background information related to appointment of school principals in Türkiye, job descriptions and professional development opportunities should be understood to make connections with this study results. The appointment process of school principals in Turkey is based on the regulations determined by the Ministry of National Education. Principals are selected in line with their teaching experience, relevant exams, and knowledge of educational management. Interviews, written exams, and performance criteria are taken into consideration during the appointment process (Dağtekin et al., 2022). The duties of school principals include administrative and pedagogical responsibilities. In this context, school management, teacher training, monitoring student achievement, and

management of the school budget are included, while relations with external stakeholders are also an important dimension. The main function of principals is to support the pedagogical development of teachers and to ensure the quality of education of the school (Balyer, 2012; Gümüşeli, 2001; Tahaoğlu & Gedikoğlu, 2009).

According to some studies (Ağaoğlu et al., 2002; Celep et al., 2010; Çelik, 2002; Korkmaz, 2005; Özmen, 2002; Receptoğlu & Kılınç, 2014; Turan & Şişman, 2002; Varış, 1996; Yavaş et al., 2014), professional development opportunities for school principals are generally limited to in-service training programs and seminars. These programs organized in Turkey are mostly not sufficient and comprehensive, and it is emphasized that more training should be provided, especially for new educational management and leadership skills (As cite in, Turhan & Karabatak, 2015, p. 84).

In Turkey, school administration is generally shaped based on a teaching background and a process devoid of professional standards is followed. This situation causes administrators to start their duties without receiving formal education and develop their competencies through experience. However, the rapid change in education demands comprehensive competencies that include knowledge, skills and attitudes from administrators. While Hornby and Thomas (1989) associate administrative competencies with effective leadership (As cite in, Woodruffe,1993), Pont (2013) defined "Professional" and "Behavioral Standards" for school principals in the OECD report. Lambert and Bouchamma (2019) presented four competency standards from Canada, the USA and Australia as a guide. In Turkey, Güngör (2001) conducted studies on administrative standards, but no scale was developed. Yazıcı and Akyol (2021) created a measurement tool covering ethics, autonomy and professional development, but no



study has been conducted to adapt Pont's standards to the Turkish education system.

Many studies examining employee performance (Aycil Sürer, 2022; Cüce, 2020; Seyidođlu, 2019) have focused on various factors affecting performance. One of these is self-directed learning, which allows individuals to manage their learning processes by developing knowledge, skills, and attitudes. Self-directed learning, which is an unstructured process without time and space limitations, is critical for high performance in organizations. While the literature emphasizes the importance of individuals using informal learning methods (self-directed, social, random), there is no study on this subject on school administrators in Turkey. In this study, the relationship between school principals' readiness for self-directed learning and their perception of competency-based job performance was examined. Job performance was assessed with a scale developed based on Pont's (2013) Occupational and Behavioral Standards and published by the authors (Çamur & Gogus, 2023).

This gap in Turkey reveals that the effect of self-directed learning on job performance should be addressed in detail, especially in the context of school principals. Considering the findings that self-directed learning supports the professional and personal development of individuals and increases job performance (e.g. Guglielmino & Roberts, 1992), it is of great importance to examine this relationship in leadership roles in the education sector. However, there is no study on this subject in Turkey. This gap necessitates investigating the relationship between the "self-directed learning readiness" levels of school principals and their "competence-based job performance perceptions". Answering this question will help to increase theoretical

knowledge and take practical steps to understand the effects of self-directed learning in educational administration.

The study was conducted in Istanbul. Istanbul attracts attention with its immigration and various advantaged and disadvantaged regions. In this context, state and private secondary school principals in Istanbul were selected as a sample. The research aims to compare the professional development and job performance of school principals in state and private schools. Due to the size of Istanbul and the large number of secondary school principals, only the secondary school level was selected; this level was representative of other levels of education since some school principals also work in primary or high school departments.

Aim and Importance of the Research

This study aims to examine how self-directed learning supports the professional and personal development of employees in educational organizations and how it can increase job performance. Self-directed learning allows school principals to identify deficiencies in their work and to improve themselves through continuous learning. While there is only one study on this subject in foreign literature (e.g. Yu, 1998), no similar research has been conducted on school principals in Turkey. This study aims to contribute to the literature and fill this gap. The five research questions of the study are as follows:

- 1) What is the level of the school principals' "self-directed learning readiness"?
- 2) Do school principals' "self-directed learning readiness" differ significantly according to age, gender, education level, and type of school they work in?



- 3) What is the level of competency-based job performance perceptions of school principals?
- 4) Do school principals' competency-based job performance perceptions differ significantly according to age, gender, education level, and type of school they work in?
- 5) Is there a significant relationship between school principals' "self-directed learning readiness levels" and their "competency-based job performance perceptions"?

The purpose of this study is to examine the self-directed learning readiness levels and competency-based job performance perceptions of school principals within the framework of Knowles' learning theory. The following objectives are addressed in the study:

- 1) The examination of self-directed learning levels focuses on the capacities of individuals to effectively manage their learning processes.
- 2) The evaluation of competency-based job performance perceptions aims to measure professional competency perceptions.
- 3) It will be analyzed whether self-directed learning levels and job performance perceptions differ according to demographic variables.
- 4) The relationship between self-directed learning and job performance will be tested in the context of the positive correlation stated in the literature, specific to Turkey and the education sector.

This study aims to make significant contributions to the literature as it is the first research conducted in this field in Turkey.

Method

Research Ethics and Research Model

Before commencing the study, the necessary translations and research permissions regarding the list of standards for school principals were obtained from the OECD on March 12, 2022, with request number 600073264. Permission to use the scale and change the items for the Self-Directed Learning Readiness Scale was obtained from the author. Ethical permission approval numbered 151 dated March 9, 2022 was received from the Istanbul Okan University Ethics Committee. Institutional permission for the research numbered E-59090411-44-48181511 dated April 20, 2022 was obtained from the Istanbul Governorship Provincial Directorate of National Education. Signed informed consent forms were obtained from the participants of the study. In this doctoral thesis study (Çamur, 2023), two independent studies were conducted, and both qualitative and quantitative studies were applied, and two designs, referred to as simultaneous design (Creswell, 2011), were used. Since the thesis was too long to be compiled into a single article, the qualitative and quantitative parts of the study were prepared as two separate articles. In the quantitative research design of this presented research, the scale was developed by the authors (Çamur & Gogus, 2023) to assess the performance of school principals. Then, the authors employed the 'relational screening model' to investigate the relationship between school principals' *'readiness for self-directed learning'* and their *'perception of competency-based job performance'*.

Participants



The general universe of this research consists of all secondary school principals working in public and private secondary schools affiliated with the Ministry of National Education throughout Turkey. The study universe is limited to public and private secondary school principals in Istanbul in the 2021-2022 academic year. The relevant numerical data were taken from the 2019/20 Official Statistics of Formal Education of the Ministry of National Education, and it was determined that there were a total of 1791 principals in Istanbul, 1146 of whom were public and 645 of whom were private secondary school principals. The sample group consisted of a total of 316 secondary school principals selected from this study universe by random sampling method.

The sample size of the study was calculated with the following formula for the universe number of 1791 (Yazıcıoğlu & Erdoğan, 2004).

$$n = (Nt^2(pq)) / (d^2(N-1) + t^2(pq))$$

$$\text{For } N=1791; n = \frac{1791 \times (1.96)^2 \times (0.5 \times 0.5)}{(0.05)^2 \times (1791-1) + (1.96)^2 \times (0.5 \times 0.5)} \approx 316$$

In the formula; n = Number of individuals to be sampled (minimum)

N = Number of individuals in the universe

p = Frequency of occurrence (probability) of the event to be examined (0.5)

q = Frequency of non-occurrence of the event to be examined ($1-p$)

t = Theoretical value found in the t table at a certain degree of freedom and the determined level of error (1.96).



d = Symbolized as + deviation, which is intended to be made according to the frequency of occurrence of the event (0.05).

The reliability level was taken as 95%, d : 0.05; t : 1.96; Based on the assumption that the research hypothesis will occur with equal probability under all conditions, both p and q values were accepted as 0.5 and for $N= 1791$, at least $n= 316$ school principals were found. In other words, according to this formula, in order for the sample group to represent the universe and for the generalization of the findings to be high, the sample group should consist of at least 316 school principals.

In the study, a survey was applied to 406 school principals in order to examine the relationship between school principals' readiness for self-directed learning and their perception of job performance. After the data were transferred to the SPSS 28™ program, missing and incorrect data were checked and extreme values were determined by Z value calculations. The data of 384 participants were analyzed by removing 22 extreme values outside the ± 3 range.

Demographic information of the 384 participants is presented in Table 1. As presented in Table 1, among the 384 participating secondary school principals included in the data analysis, 268 (69.8%) are male and 116 (30.2%) are female. The majority of principals fall within the age range of 35-44 (38.8%). Among them, 218 (56.8%) hold undergraduate degrees, while 166 (43.2%) hold postgraduate degrees. 269 (70.1%) of them were working in public schools, while 115 (29.9%) were working in private schools. Additionally, 273 (71.1%) school principals, whose number of students was 351 and above, participated.



Table 1.

Demographic information of participating secondary school principals

Demographic Information	Category	f	%
Age	25-34	67	17.4
	35-44	149	38.8
	45-54	131	34.1
	55 Years and above	37	9.6
Gender	Male	268	69.8
	Female	116	30.2
Education Status	Bachelor's degree	218	56.8
	Graduate education	166	43.2
Principal Duty Year	1-5	171	44.5
	6-10	106	27.6
	11-15	57	14.8
	16-20	18	4.7
	21 years and above	32	8.3
Duty Year Before Becoming Principal	1-5	63	16.4
	6-10	129	33.6
	11-15	101	26.3
	16-20	60	15.6
	21 years and above	31	8.1
Type of School	Public school	269	70.1
	Private school	115	29.9
Number of Students in the School	50-150	49	12.8
	151-250	34	8.9
	251-350	28	7.3
	351 and above	273	71.1
Number of Teachers in the School	25-50	208	54.2
	51-75	106	27.6
	76-100	45	11.7
	101-125	25	6.5



Data Collection Tools and Data Collection

Data collection was carried out using Google Form and face-to-face survey applications. The Self-Directed Learning Readiness Scale developed by Fisher et al. (2001) was used as a tool. The Turkish adaptation of the scale was made by Şahin and Erden (2009), and the five-point Likert-type scale consisting of 52 items has three factors: self-direction, desire to learn, and self-control (Bakaç & Özen, 2018). According to the research objectives and thesis jury feedback, 11 items were removed from the scale (3 items from self-management, 4 items from desire to learn, 4 items from self-control). The reliability level of the revised 41-item scale was determined as 94.5% (Cronbach's Alpha: 0.945), and the reliability rates for the sub-dimensions were found as 89.7% for self-management, 86.5% for self-control, and 82.5% for desire to learn. These results show a high level of reliability (Nunnally, 1975). The results show that the Self-Directed Learning Readiness Scale used in this study meets the reliability and construct validity criteria for the sample group.

In this study, an original scale was developed to measure the competency-based job performance perceptions of school principals. Pont's (2013) list of school principals' competencies was translated into Turkish and a 41-item, six-factor scale was created. The developed scale was validated with high reliability (Cronbach Alpha: 0.959) and a 59.66% variance explanation rate. The scale includes six factors such as pedagogical management, organizational conditions, communication, adaptation and professional development, monitoring and guidance, and financial resource management.

For this current study, the Cronbach's Alpha reliability test results for the two scales 'self-directed learning readiness' and 'competency-based job performance perceptions' as well as the sub-dimensions of these

scales, are presented in Table 2. When examining Table 2, it is evident that the reliability level for the self-directed learning readiness scale is 93.1%, and for the competency-based job performance perception, it is 96.5%. When considering the sub-dimensions, reliability levels vary between 70.9% and 93.2%. These values in Table 2 demonstrate that the reliability of school principals' responses to both the sub-dimensions and the entire scale is high. As the scores obtained from the scale increase, school principals' perceptions of the dimensions in question become more positive; conversely, as the scores decrease, perceptions tend to become more negative.

Table 2.

Reliability analysis results for two scales and their subscales

Scale	Cronbach Alfa	Number of Items
Self-Directed Learning Readiness	0.931	39
Self-Management	0.859	16
Willingness to Learn	0.852	12
Self-Control	0.796	11
Competency-Based Job Performance Perception	0.965	41
Pedagogical Management: Evaluation and Leadership in Learning and Teaching Processes	0.932	14
Creating Organizational Conditions, Developing School and Staff	0.877	10
Communication and Values	0.853	6
Creating Harmony in the School and Professional Development	0.846	6
Monitoring and Guiding	0.825	3
Provision and Management of Financial Resources	0.709	2

Data Analysis

In the study, data obtained from 406 school principals were transferred to SPSS 28™ program and missing and erroneous data were checked.



In normality and extreme value analyses, 22 values outside the ± 3 range were removed and descriptive statistics were calculated with 384 data with z values between -2.87 and 0.9955.

One of the research questions was whether the perceptions of school principals regarding self-directed learning readiness and competence-based job performance differed according to age, gender, level of education and type of school. One-way multivariate analysis of variance (MANOVA) was applied to examine the effects of these variables. Hair (2009) emphasizes that MANOVA is suitable for analyzing independent variables with two or more groups and that this method is effective in reducing Type-I errors that may be caused by repeated tests.

One of the important diagonal tests of the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups, called Box's test of equality of covariance matrices, indicates that we cannot reject the null hypothesis (Box's $M=.87.117$, $F=1.024$ and $p=0.421$). The results provide us to covariance matrices are equal across the groups.

Levene's Test of Equality of Error Variances was applied to assess the homogeneity of variances for both the Readiness for Self-Directed Learning and the Competency-Based Job Performance Perceptions Scale. The test evaluates the null hypothesis that the error variance of the dependent variable is consistent across groups. The results confirmed that the variances of the dependent variable were indeed equal across the groups, supporting the assumption of homogeneity. Finally, Structural Equation Modeling was applied through the Lisrel program to determine the "relationship between the level of school principals' readiness for self-directed learning and their perception of competency-based job performance".

Findings

The results of school principals' scores on the self-directed learning readiness and competency-based job performance perceptions scales are presented in Table 3. In determining the levels based on arithmetic averages, cut-off scores and corresponding comments were established using calculations that considered the range and interval equality formula suggested by Tekin (2003). When Table 3 is examined, in the readiness for self-directed learning scale; the score range of 3.38-3.92 indicates Negative Perception, the score range of 3.93-4.46 indicates Medium Level Perception, and the score range of 4.47-5 indicates Positive Perception. In the Competency-based job performance perceptions scale, the score range of 3.46-3.97 indicates Negative Perception, the score range of 3.98-4.49 indicates Medium Level Perception and the score range of 4.50-5 indicates Positive Perception.

Table 3.

Results regarding the interpretation of the two scale scores used (n=384)

Dimensions	Average	Standard Deviation	Perception Level Range	Perception Level Comment
Readiness for Self-Directed Learning	4.326	0.348	3.93-4.46	Medium Level but very close to the Positive Perception
Self-Management	4.442	0.353	4.01-4.50	Intermediate
Willingness to Learn	4.163	0.438	3.73-4.36	Intermediate
Self-Control	4.335	0.386	3.91-4.45	Intermediate
Competency-Based Job Performance Perceptions Scale	4.457	0.386	3.98-4.49	Medium Level but very close to the Positive Perception
Pedagogical Management: Evaluation and Leadership in	4.404	0.448	4.39-5	Positive Perception



Learning and Teaching Processes				
Creating Organizational Conditions, Developing School and Staff	4.546	0.396	4.51-5	Positive Perception
Communication and Values	4.594	0.407	4.57-5	Positive Perception
Creating Harmony in the School and Professional Development	4.371	0.481	4.34-5	Positive Perception
Monitoring and Guiding	4.426	0.501	4.34-5	Positive Perception
Provision and Management of Financial Resources	4.281	0.618	4.18-5	Positive Perception

In Table 3, school administrators' self-directed learning readiness levels (4.326) are at a medium level, and their competency-based job performance perceptions (4.457) are at a medium level but very close to positive. It is seen that among the three sub-dimensions of the self-directed learning readiness scale the dimension with the highest mean is self-management (4.442) followed by self-control (4.335) and the dimension with the lowest mean is willingness to learn (4.163). It can be said that the school principals' self-directed learning readiness level is at a medium level for the whole scale and for three sub-dimensions. For the six sub-dimensions of the school principals' competency-based job performance perceptions scale, the communication and values dimension (4.594) has the highest average, followed by creating organizational conditions (4.546), monitoring and guiding (4.426), pedagogical management (4.404), respectively, according to the averages, creating harmony within the school (4.371) dimensions and the sub-dimension with the lowest average is the provision and management of financial resources (4.281). The competency-based job performance perceptions are at a medium level but close to positive, and they have a positive perception in all six sub-dimensions.



One research question was whether school principals' self-directed learning readiness and competency-based job performance perceptions vary significantly by age, gender, education level, and type of school. One-way multivariate analysis of variance (MANOVA) was used to test the effects of age, gender, educational status and school characteristics on the Readiness for Self-Directed Learning and Competency-Based Job Performance Perceptions Scale, and the results are presented below. For binary categorical variables, Hair (2009) indicated that both ANOVA and MANOVA can handle two-group situations and can also handle analyses where the independent variables have more than two groups. In this regard, it is appropriate to conduct a MANOVA without allowing the tests to be repeated and thus increasing the Type-I errors.

One of the important diagonal tests of the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups, called Box's test of equality of covariance matrices, indicates that the null hypothesis cannot be (Box's $M=.87.117$, $F=1.024$ and $p=0.421$). The results provide that covariance matrices are equal across the groups. Levene's Test of Equality of Error Variances (see Table 4) was applied to assess the homogeneity of variances for both the Readiness for Self-Directed Learning and the Competency-Based Job Performance Perceptions Scale. The test evaluates the null hypothesis that the error variance of the dependent variable is consistent across groups. The results confirmed that the variances of the dependent variable were indeed equal across the groups, supporting the assumption of homogeneity.

Table 4.

Levene's test of equality of error variances

	<i>F</i>	<i>df₁</i>	<i>df₂</i>	<i>Sig.</i>
Readiness for Self-Directed Learning	1.793	31	352	.007
Competency-Based Job Performance Perceptions Scale	1.552	31	352	.033

df: Degrees of freedom

The multivariate test results (see Table 5) assess the effects of *gender, education level, school type, and age* on two dependent variables: Readiness for Self-Directed Learning and Competency-Based Job Performance Perceptions. Breakdown of the multivariate test results using different statistics (Pillai's Trace, Wilks' Lambda, Hotelling's Trace, and Roy's Largest Root) presented below.

Table 5.

Multivariate tests results

	<i>Effect</i>	<i>Value</i>	<i>F</i>	<i>Hypothesis df</i>	<i>Error df</i>	<i>Sig.</i>	<i>Partial η²</i>
Gender	Pillai's Trace	.022	3.960	2.000	351.000	.020	.022
	Wilks' Lambda	.978	3.960	2.000	351.000	.020	.022
	Hotelling's Trace	.023	3.960	2.000	351.000	.020	.022
	Roy's Largest Root	.023	3.960	2.000	351.000	.020	.022
Education Level	Pillai's Trace	.003	.487	2.000	351.000	.615	.003
	Wilks' Lambda	.997	.487	2.000	351.000	.615	.003
	Hotelling's Trace	.003	.487	2.000	351.000	.615	.003
	Roy's Largest Root	.003	.487	2.000	351.000	.615	.003
	Pillai's Trace	.010	1.697	2.000	351.000	.185	.010

School Type	Wilks' Lambda	.990	1.697	2.000	351.000	.185	.010
	Hotelling's Trace	.010	1.697	2.000	351.000	.185	.010
	Roy's Largest Root	.010	1.697	2.000	351.000	.185	.010
Age	Pillai's Trace	.015	.872	6.000	704.000	.515	.007
	Wilks' Lambda	.985	.872	6.000	702.000	.515	.007
	Hotelling's Trace	.015	.873	6.000	700.000	.514	.007
	Roy's Largest Root	.015	1.703	3.000	352.000	.166	.014

The Wilks' Lambda test statistics reveal a significant multivariate effect of gender on the dependent variables, with a p -value of 0.020 and an F -value of 3.960. The Partial Eta Squared (Partial η^2) is 0.022, indicating that approximately 2.2% of the variance in the dependent variables is explained by gender. This suggests that while the effect is statistically significant, it is relatively small. In contrast, education level does not have a significant multivariate effect, as indicated by a p -value of 0.615 and an F -value of 0.487. The Partial Eta Squared is 0.003, meaning that the effect of education level is negligible and accounts for only 0.3% of the variance in the dependent variables. Similarly, school type does not show a significant effect, with a p -value of 0.185 and an F -value of 1.697. The Partial Eta Squared is 0.010, indicating a small effect size, though it is not statistically significant. Age also does not have a significant multivariate effect, with a p -value of 0.515 and an F -value of 0.872. The Partial Eta Squared is 0.007, suggesting a minimal effect size. In summary, gender demonstrates a significant but small effect on the combined dependent variables, while education level, school type, and age do not show any statistically significant effects.

Table 6 presents the results of a MANOVA. The test examines the effect of independent variables (gender, education level, school type, age) on two dependent variables: Readiness for Self-Directed Learning and



Competency-Based Job Performance Perceptions Scale. The analysis reveals that gender has a statistically significant effect on both Readiness for Self-Directed Learning and Competency-Based Job Performance Perceptions. Specifically, for Readiness for Self-Directed Learning, the F -value is 6.194 with a p -value of 0.013, indicating that gender has a meaningful impact. Similarly, gender significantly affects Competency-Based Job Performance Perceptions, with an F -value of 7.697 and a p -value of 0.006. Conversely, education level does not show a significant effect on either variable. The F -value for Readiness for Self-Directed Learning is 0.101 ($p=0.750$), and for Competency-Based Job Performance Perceptions, the F -value is 0.107 ($p=0.744$), both indicating no meaningful impact of education level. Regarding school type, the F -value for Readiness for Self-Directed Learning is 2.355 ($p=0.126$), suggesting no significant effect, while for Competency-Based Job Performance Perceptions, the F -value of 3.384 ($p = 0.067$) approaches significance but does not meet the conventional threshold of 0.05. Age does not show any significant effect on either variable, with an F -value of 1.057 ($p = 0.367$) for Readiness for Self-Directed Learning and an F -value of 0.138 ($p = 0.937$) for Competency-Based Job Performance Perceptions. In summary, gender is a significant predictor of both Readiness for Self-Directed Learning and Competency-Based Job Performance Perceptions, while education level, school type, and age do not have a statistically significant impact.

Table 6.

Tests of between subjects effects

<i>Source</i>	<i>Dependent Variable</i>	<i>Type III Sum of Sq</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
Gender	Readiness for Self-Directed Learning	.705	1	.705	6.194	.013



	Competency-Based Job Performance Perceptions Scale	1.066	1	1.066	7.697	.006
Education Level	Readiness for Self-Directed Learning	.012	1	.012	.101	.750
	Competency-Based Job Performance Perceptions Scale	.015	1	.015	.107	.744
School Type	Readiness for Self-Directed Learning	.268	1	.268	2.355	.126
	Competency-Based Job Performance Perceptions Scale	.469	1	.469	3.384	.067
Age	Readiness for Self-Directed Learning	.361	3	.120	1.057	.367
	Competency-Based Job Performance Perceptions Scale	.057	3	.019	.138	.937

Before examining the application of the Structural Equation Model (SEM) to determine the relationship between school principals' self-directed learning readiness levels and competency-based job performance perceptions, Table 7 gives the Pearson correlation analysis results between the dimensions of the two scales.

Table 7.

Pearson correlation analysis results between the dimensions of the two scales

	Self-Management	Willingness to Learn	Self-Control	Self-directed Learning Readiness	Pedagogical Management	Creating Organizational Conditions	Communication and Values	Creating Harmony Within the School	Monitoring and Guiding	Provision and Management of Financial Resources	Competency-Based Job Performance
Self-Management	--										
Willingness to Learn	.665**	--									
Self-Control	.743**	.721**	--								
Self-directed Learning Readiness	.904**	.888**	.899**	--							
Pedagogical Management	.717**	.686**	.679**	.775**	--						
Creating Organizational Conditions	.678**	.559**	.603**	.686**	.784**	--					
Communication and Values	.642**	.482**	.537**	.621**	.707**	.652**	--				
Creating Harmony Within the School	.664**	.676**	.659**	.743**	.845**	.759**	.609**	--			
Monitoring and Guiding	.577**	.498**	.559**	.607**	.665**	.642**	.525**	.611**	--		
Provision and Management of Financial Resources	.396**	.380**	.378**	.430**	.461**	.459**	.377**	.510**	.284**	--	
Competency-Based Job Performance	.759**	.686**	.706**	.801**	.954**	.896**	.788**	.898**	.733**	.553**	--

** Indicates significant correlation coefficients with 99% reliability

When Table 7 was examined, it was determined that there was a positive and high relationship between school principals' self-directed learning readiness and their perception of competency-based job



performance ($r=0.801$). In terms of sub-dimensions, the level of self-directed learning readiness had the highest relationship with the pedagogical management dimension ($r=0.775$). Competency-based job performance perception had the highest relationship with self-management, one of the sub-dimensions of the self-directed learning readiness ($r=0.759$). When looking at the relationship results between two scales and all sub-dimensions, there were positive and significant relationships with all dimensions. In summary, it has been determined that there is a positive and high relationship between school principals' self-directed learning readiness levels and their competency-based job performance perceptions.

Structural Equation Model (SEM) was applied to determine the relationship between school principals' self-directed learning readiness and competency-based job performance and the results are given in Table 8.

Table 8.

SEM goodness of fit values for self-directed learning readiness and competency-based job performance

<i>Fit Index</i>	<i>Statistics</i>	<i>Acceptable Values</i>	<i>Good Fit Values</i>
RMSEA	0.072	$0.05 \leq \text{RMSEA} \leq 0.10$	$0 \leq \text{RMSEA} \leq 0.05$
$\chi^2/\text{s.d.}$	3.001	$2 \leq \chi^2/\text{s.d} \leq 5$	$0 \leq \chi^2/\text{s.d} < 2$
SRMR	0.060	$0.05 \leq \text{SRMR} \leq 0.10$	$0 \leq \text{SRMR} \leq 0.05$
NFI	0.99	$0.90 \leq \text{GFI} \leq 0.95$	$0.95 \leq \text{GFI} \leq 1.00$
GFI	0.96	$0.90 \leq \text{GFI} \leq 0.95$	$0.95 \leq \text{GFI} \leq 1.00$
AGFI	0.96	$0.85 \leq \text{AGFI} \leq 0.90$	$0.90 \leq \text{AGFI} \leq 1.00$
PGFI	0.91	$0.85 \leq \text{AGFI} \leq 0.90$	$0.90 \leq \text{AGFI} \leq 1.00$
CFI	0.99	$0.90 \leq \text{CFI} \leq 0.95$	$0.95 \leq \text{CFI} \leq 1.00$

Degrees of Freedom =3071, $\chi^2 =9219.25$,

p-Value for Test of Close Fit (RMSEA < 0.05) = 0.00

When the fit index values are examined, it is seen that the indices are within good or acceptable limits. The draft model created based on these results fits well with the existing data set. The PATH diagram drawn to determine factor loadings and impact levels is given in Figure 1. The resulting SEM equation is as in equation (1) below.

$$(\text{competency-based job performance}) = 0,85 * (\text{self-directed learning readiness})$$

$$\text{Errorvar.} = 1.00, R^2 = 0.73 \quad (1)$$

When equation (1) is examined, it is seen that there is a positive and significant relationship between school principals' self-directed learning readiness levels and their competency-based job performance perceptions ($p:0.005 < 0.05$ and standardized $\beta = 0.85$), when R^2 in the model is examined, the independent variable has a high power to explain the change in the variance of the dependent variable. When the PATH diagram (Figure1) is examined, it is seen that the factor load values in SEM vary between 0.35 and 0.74; the fact that these values are high indicates that the items in the scale have a medium and high level of relationship with the dimension they belong to.

After examining multiple models to determine the relationships between three sub-dimensions of the self-directed learning readiness and sub-dimensions of the competency-based job performance perceptions, all the path diagrams are presents in Figure 2, 3, 4, and 5 and details of the SEM models and regressions are presented in the thesis. The factor load values in SEM vary between 0.46 and 0.86 for the PATH diagram of self-management (see Figure 2). The factor load

values in SEM vary between 0.35 and 0.86 for the PATH diagram of willingness to learn (see Figure 3). The factor load values in SEM vary between 0.24 and 0.86 for the PATH diagram of self-control (see Figure 4). The Figure 5 presents four SEM results in a single graph. The names corresponding to the scales and the dimensions of the scales are given in abbreviated forms in the Figures 1, 2, 3, 4, and 5 as below.

- The abbreviation “hazir” refers to “self-directed learning readiness”.
- The abbreviation “isperf” refers to “competency-based job performance perception”.
- The abbreviation “özkont” refers to “self-management”.
- The abbreviation “izreh” refers to “monitoring and guiding”.
- The abbreviation “finkay” refers to “provision and management of financial resources”.
- The abbreviation “pedyon” refers to “pedagogical management: evaluation and leadership in learning and teaching processes”.
- The abbreviation “ildeg” refers to “communication and values”.
- The abbreviation “orkos” refers to “creating organizational conditions, developing school and staff”.
- The abbreviation “okiuyum” refers to “creating harmony in the school and professional development”.
- The abbreviation “ogris” refers to “willingness to learn”.



- The abbreviation “ozyoneti” refers to “self-control”.

According to result of four SEM equations, Figure 5 shows that the dimensions of self-control (özkont), willingness to learn (ogris), and self-management (ozyoneti) each have positive and significant relationships with the six sub-dimensions of competence-based job performance (ısp perf). Self-control has the strongest relationship with creating harmony within the school (okiuyum) ($\beta=0.97$) and the weakest relationship with management of financial resources (finkay) ($\beta=0.60$). Similarly, willingness to learn has the highest relationship with creating harmony within the school (okiuyum) ($\beta=0.97$) and the lowest relationship with management of financial resources (finkay) ($\beta=0.60$). The dimension of self-management (ozyoneti) also has the highest relationship with creating harmony within the school (okiuyum) ($\beta=0.96$) and the lowest relationship with management of financial resources (finkay) ($\beta=0.60$). The results of the high factor load values imply that there are high relationships between three sub-dimensions of the self-directed learning readiness and six sub-dimensions of the competency-based job performance perceptions as the answer of the fifth research question.

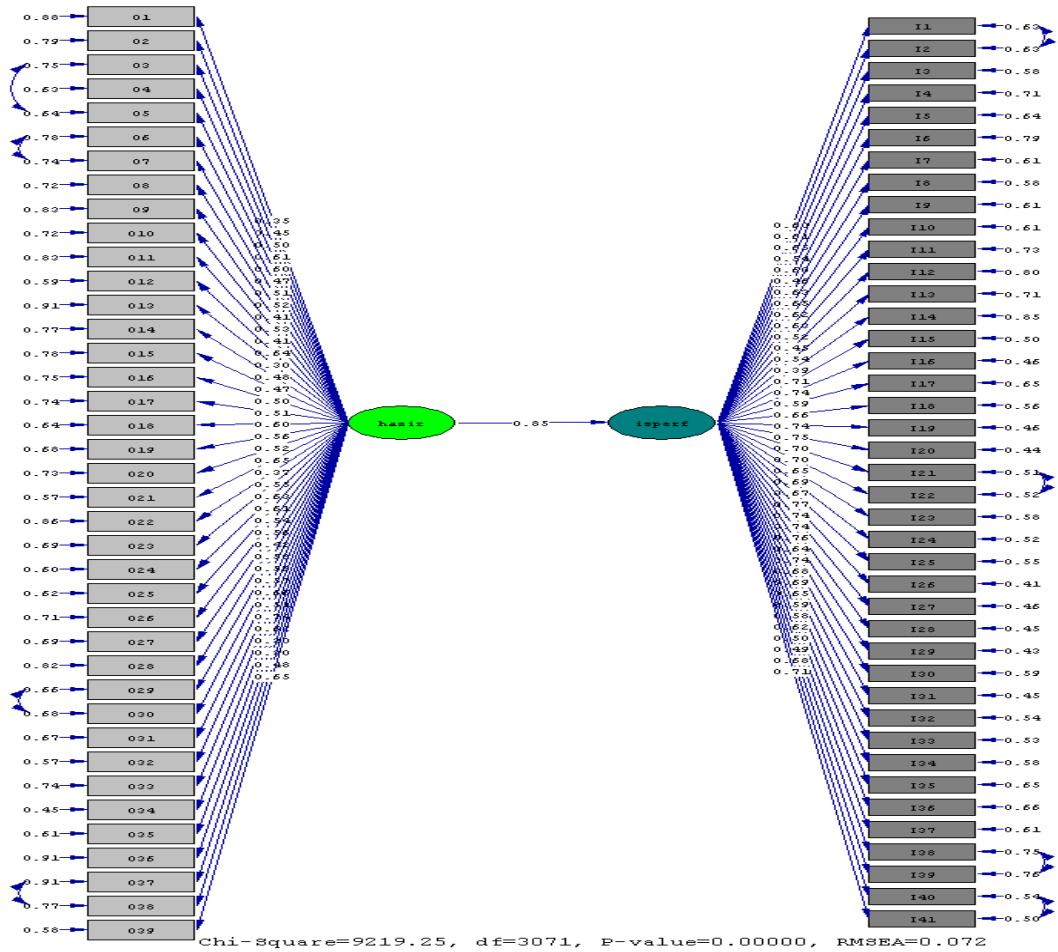


Figure 1. The effect of school principals' self-directed learning readiness levels on their competency-based job performance perceptions path diagram

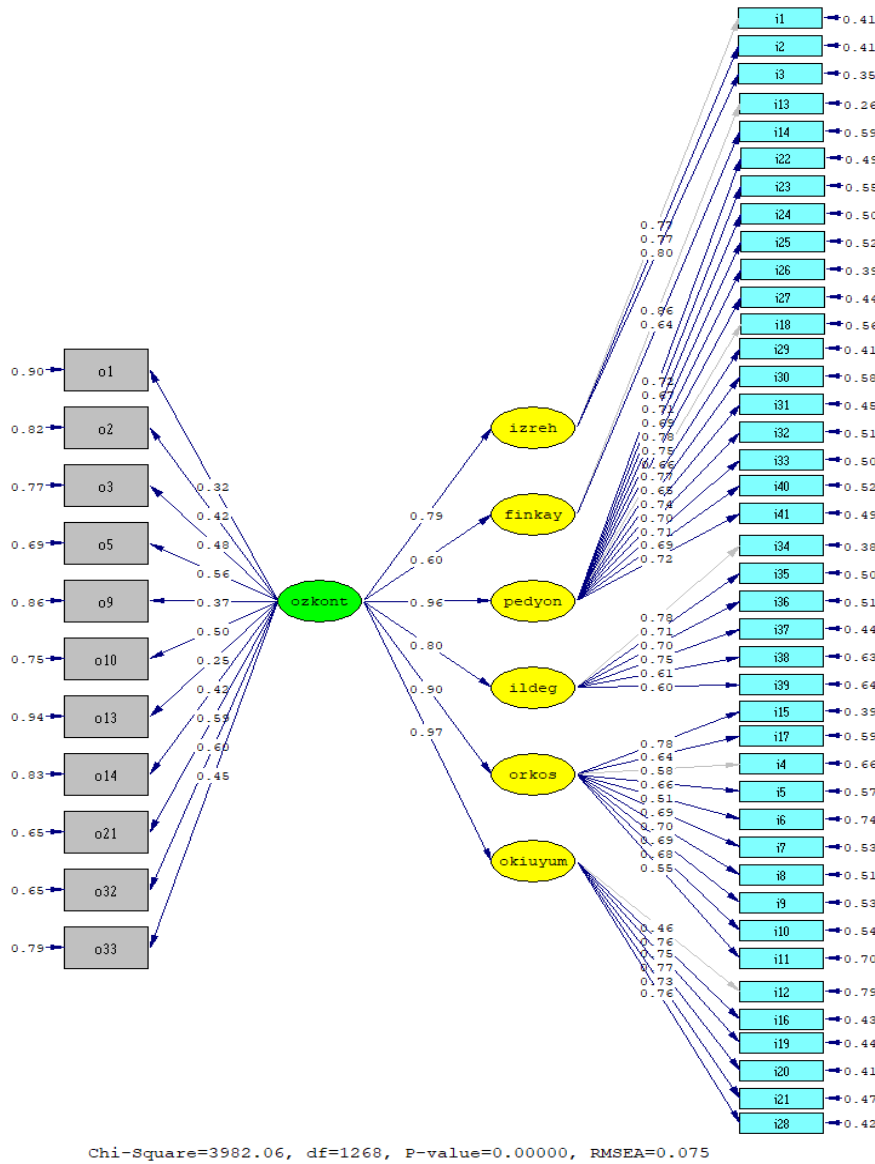
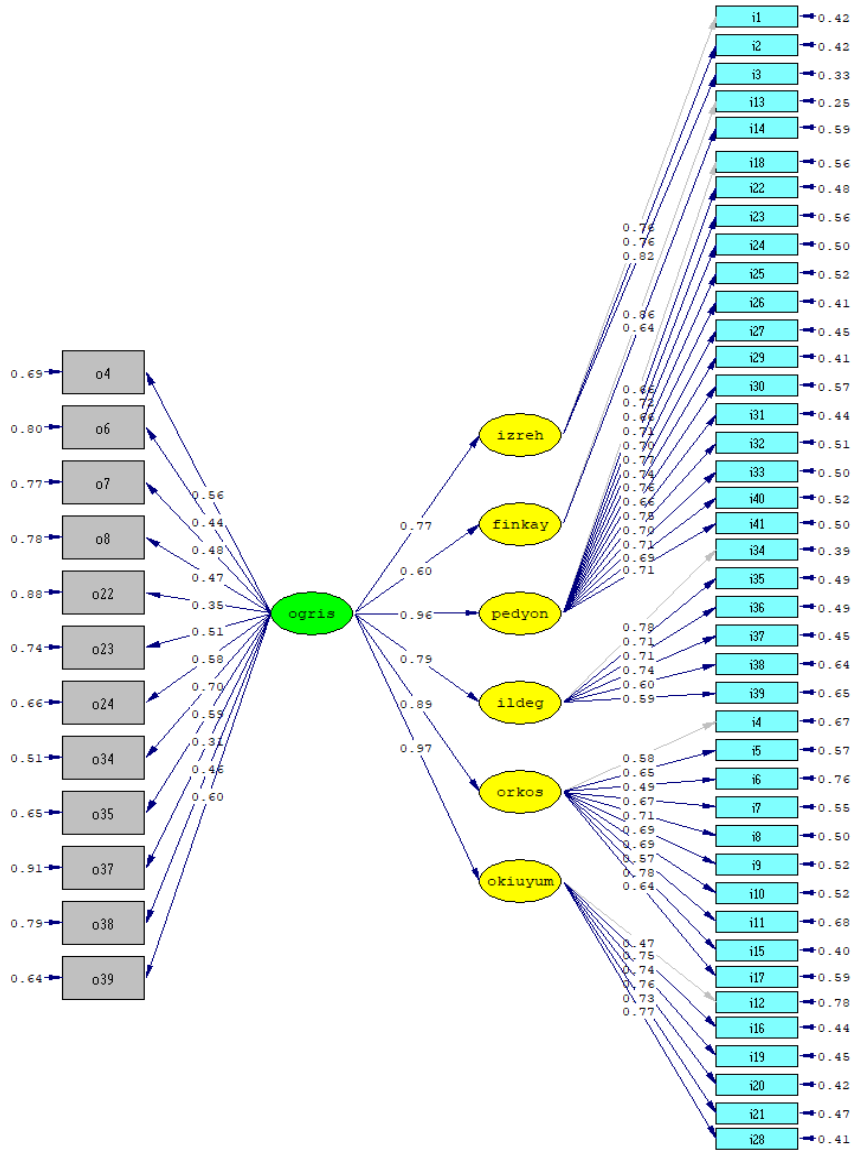
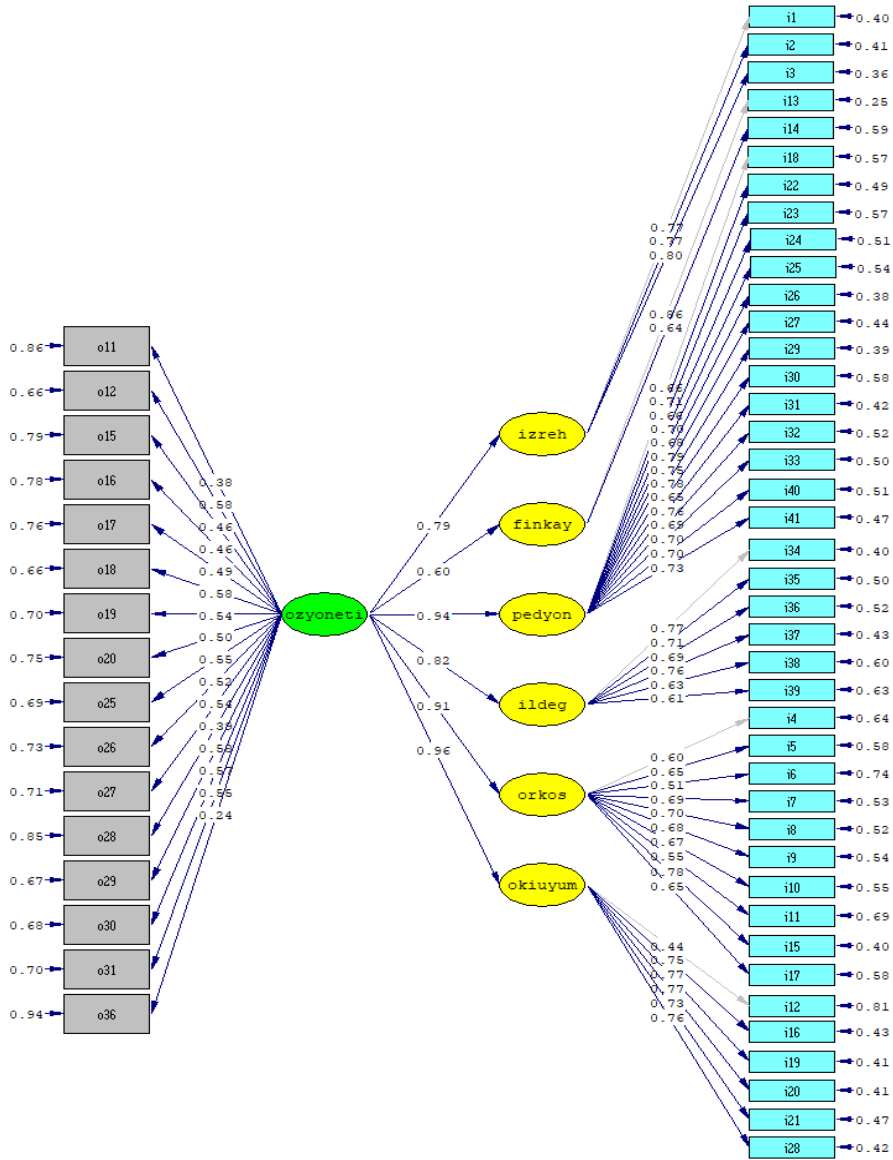


Figure 2. Path diagram for self-management and sub-dimensions the competency-based job performance perceptions



Chi-Square=4240.85, df=1319, P-value=0.00000, RMSEA=0.076

Figure 3. Path diagram for willingness to learn and sub-dimensions the competency-based job performance perceptions



Chi-Square=5546.21, df=1533, P-value=0.00000, RMSEA=0.083

Figure 4. Path diagram for self-control and sub-dimensions the “competency-based job performance perceptions”

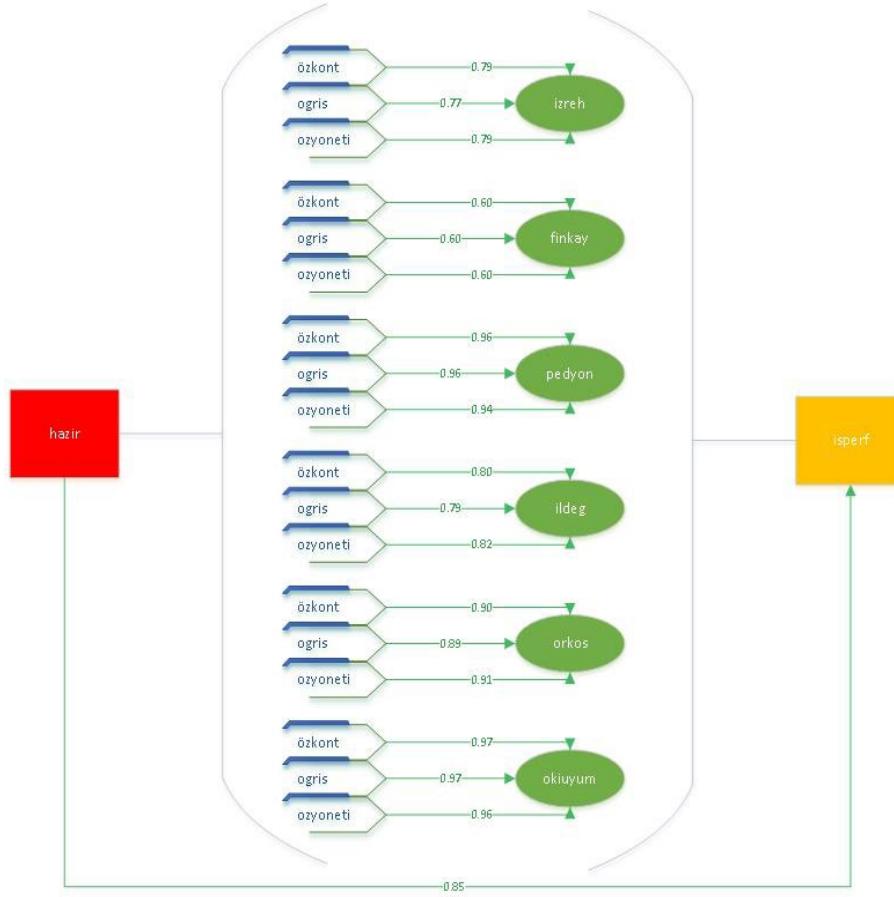


Figure 5. The relationships between sub-dimensions of the self-directed learning readiness and sub-dimensions of the competency-based job performance

By considering multiple positive high relations in the Figure 5, the Figure 6 presents an infographic to show the relationships between sub-dimensions of the self-directed learning readiness and sub-dimensions of the competency-based job performance and to summarize multiple positive high relations in a whole.

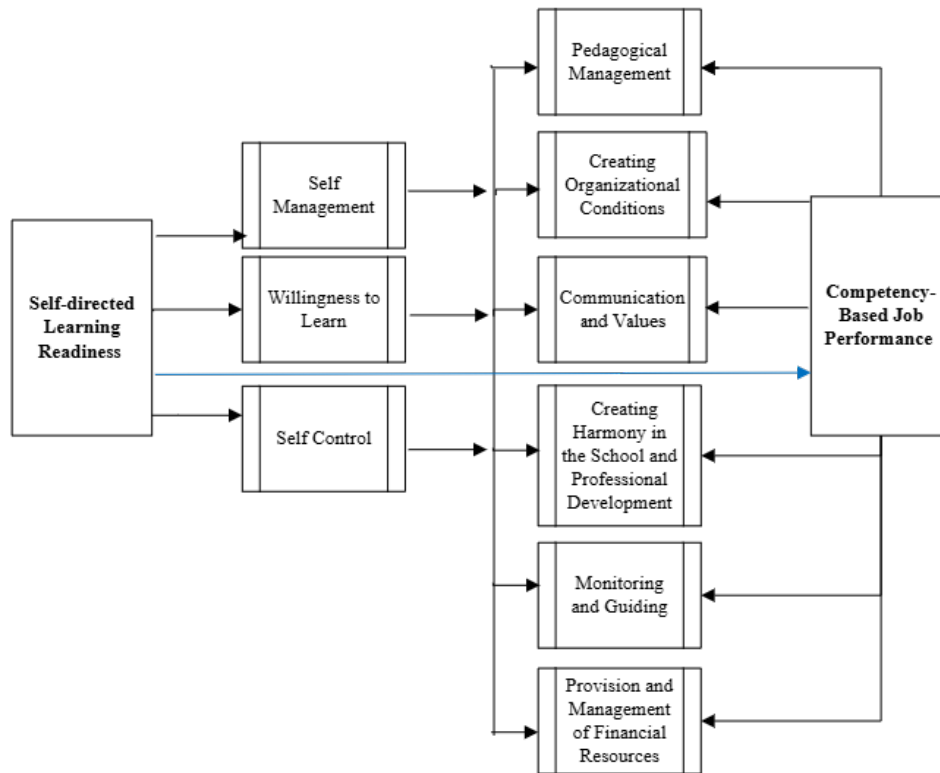


Figure 6. Infographics for the all-figured relationships between sub-dimensions of the self-directed learning readiness and sub-dimensions of the competency-based job performance”

Discussion

In the study, it was found that the school principals' readiness scores for self-directed learning were at a moderate level. This situation can be associated with the fact that the principals do not have sufficient awareness of self-directed learning and its importance. Although there are various international studies on self-directed learning of school principals in the literature (e.g. Yu, 1998; Taylor, 2019; Guglielmino & Hillard, 2007), no research on this subject has been found in Turkey.



Considering the studies conducted abroad, especially since the 1960s (Robinson & Persky, 2020), it is striking that the research on school principals in Turkey is limited until 2023. Raising the awareness of principals about self-directed learning can increase their readiness levels. In addition, self-directed learning is an important tool for individuals to continue their professional development and gain lifelong learning skills.

As a result of the research, it was found that the competency-based job performance perceptions of school principals were at a moderate level. There may be several reasons why school principals' competency-based job performance perceptions are moderate. The best examples of these reasons are given in the study titled *Factors Limiting the Instructional Leadership of School Principals* by Gümüşeli (1996). When the study is examined, the most important factors are; legal and bureaucratic restrictions and insufficient time to spare for teaching-related issues (Griffin, 1993). Another important factor is the inadequacy of principals' curriculum and teaching knowledge (Hallinger & Murphy, 1987). Additionally, McEvan (1994) added lack of vision, determination and courage to these (Hallinger & Murphy, 1987; Griffin, 1993; McEvan, 1994 as cited in Gümüşeli, 1996). There are studies in the literature that reveal similar problems (Deniz & Ağalday, 2023; Sarpkaya, 2021). Another reason is that school principalship is not seen as a profession, and those who are successful in teaching will also be successful in management. Aydın (1997) states that in the Turkish education system, success and seniority in teaching are accepted as criteria in principal appointments. This situation creates a contradiction in terms of not taking into account the necessary qualifications in administrator appointments (Aydın, 1997 as cited in Ağaoglu et al., 2012).

In the study, it was found that the perception of job performance of school principals according to age groups was the highest in individuals aged 55 and over, and the lowest in the 25-34 age group. Tmkaya and Asar (2017) also stated that perceptions of competence increased as age increased. Although this reflects a situation where experience increases with age, there are also examples that show that age does not provide greater competence in every area. Oğuz (2007) found that young principals produced more effective solutions in conflict management, while older principals avoided problems. This reveals that experience is important but may not be sufficient on its own.

Studies show that female school principals have significantly higher self-directed learning and job performance scores than men. This finding shows that women are more successful than men in professional development and learning processes (Artsın, Koçdar, & Bozkurt, 2019; Guglielmino et al., 1987; Swart, 2018; Yılmazsoy & Kahraman, 2019). Guglielmino et al. (1987) determined that women's self-directed learning scores are significantly higher than men. This result suggests that women's multiple roles and career-family conflicts require them to exert more effort than men. This situation can be evaluated as women's struggle to exist in society. While Yu (1998) stated that female school principals have higher job performance scores than men, Blackburn et al. (2006) stated that women are more effective in areas such as conflict management, cooperation and professional development support. Studies such as Çelikten (2004) and Banoğlu (2011) also support women's competencies in various areas. In particular, despite the lack of representation and obstacles (Çelikten, Çelikten et al., 2019) the fact that female school principals show higher



self-directed learning and job performance stands out as an important development.

The study found a positive and significant relationship between education level and self-directed learning and job performance. It is seen that school principals with higher education levels are more successful in self-directed learning and job performance. Kızılcec et al. (2017) stated that individuals with a doctorate have stronger self-directed learning skills, while Sarıcalar and Özkan (2021) stated that postgraduate education is positively associated with self-directed learning. However, Artsın (2018) reported that participants with an associate degree had higher self-directed learning skills, and Yalçın (2019) found no significant difference between educational background and qualification. There are similar findings in the literature (Açıklalın, 2000; Çetin, 2001; Doğan, 2006). These results show that although postgraduate education provides knowledge and skills, it is difficult to argue that school principals with postgraduate education are more competent in every field. Yıldırım and Aslan (2008) emphasized that learning through experience plays an important role in the competence of school principals and that this is compatible with informal learning processes (Çamur & Gogus, 2023).

The findings of the study show that private school principals score higher in both self-directed learning and job performance than their counterparts in public schools. This reveals that private school principals contribute more to professional development and job performance, and are also more effective in self-directed learning. Yirci and Aydoğar (2020) state that private school principals have higher innovation management skills, while Çelik and Polat (2017) state that the level of implementation of self-leadership strategies is higher than public school principals. However, some studies also show that the

type of school does not have a significant effect on managerial competencies (e.g., Tümkaya and Asar, 2017; Uysal, 2001).

Self-directed learning is becoming more and more important. Studies (Foucher & Trembay, 1993; Guglielmino & Roberts, 1992; L.M. Guglielmino & P.J. Guglielmino, 1994) show that there is a positive relationship between self-directed learning and job performance and that it provides significant savings in training costs. Therefore, it is important for organizations to encourage self-directed learning and provide the necessary support.

Conclusion and Recommendations

This study revealed a strong and positive relationship between school principals' readiness for self-directed learning and their perceptions of job performance. It was observed that school principals gained competence as they took on learning responsibilities and that these competences improved their job performance. However, it was determined that their readiness for self-directed learning was at a moderate level and their perceptions of job performance based on competence were also at a moderate level. Significant differences were found in perceptions of self-directed learning and job performance according to gender and school type.

In terms of gender, female school principals' level of readiness for self-directed learning and job performance perceptions are higher than males. Although females scored higher than males in all sub-dimensions of both scales, they scored lower only in the provision and management of financial resources sub-dimension.

According to the type of school principals work in, the self-directed learning readiness levels and job performance perceptions of



principals working in private schools are higher than those of principals working in public schools. There is no significant difference in the perceptions of self-directed learning and job performance of principals according to their level of education. There is no difference in self-directed learning readiness levels and job performance perceptions according to age. However, a significant difference was found between age groups only in the desire to learn sub-dimension. The 25-34 age group had the highest mean, while the 45-54 age group had the lowest mean.

The analysis results show that the level of school principals' readiness for self-directed learning is at a medium level. Self-management is the sub-dimension with the highest mean, while desire to learn is the sub-dimension with the lowest mean. Competence-based job performance perceptions are also at a medium level, with the highest mean in the communication and values dimension and the lowest mean in the provision and management of financial resources dimension.

This study is the first in the local literature in Turkey and it is important to conduct similar studies on school principals in different regions. These studies can increase awareness of self-directed learning and its effects on performance. The study found a strong positive relationship between self-directed learning and job performance. In this context, teacher training programs for school principals with a teaching background should be restructured to develop self-directed learning skills. In addition, these skills can be included in teacher and manager training programs as an independent course (Karataş, 2013).

Although the number of female school principals is less than that of males, female principals have a higher perception of readiness for self-directed learning and job performance. In this context, taking measures to encourage more female administrators in the education

system can increase the number of female administrators. In addition, seeking certain minimum qualifications in the selection or appointment of school principals can be effective in increasing professional efficiency. Training programs that develop informal and self-learning skills should be prepared for school principals. Suggestions include organizing education programs to improve school principals' self-directed learning skills, developing digital education materials such as podcast, short videos, blogs, bulletin related to school principals' professional development, organizing conferences and seminars related to issues that principals face in the school systems, using social-media groups to enhance communications and support principals' job performance.

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Ethics Statement: Before commencing the study, the necessary translations and research permissions regarding the list of “standards for school principals” were obtained from the OECD on March 12, 2022, with request number 600073264. Permission to use the scale and modify items for “the Self-Directed Learning Readiness Scale” was obtained from the author. This research adhered to all guidelines outlined in the “Higher Education Institutions Scientific Research and Publication Ethics Directive.” No actions contrary to scientific research and publication ethics, as specified in the directive, were undertaken during the course of this study. This study was conducted in accordance with ethical guidelines and permissions. Ethical approval was obtained under decision number 151 dated March 9, 2022, from the Istanbul Okan University Ethics Committee. Additionally, survey and research permission was granted under permission number E-59090411-44-48181511 dated April 20, 2022, by the Istanbul Governorship Provincial Directorate of National Education. All participants signed an informed consent form, which outlined the research procedures and affirmed their right to withdraw from the



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