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The Impact of Lifelong Learning Skills of Teachers on Job Satisfaction

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This study examines the impact of teachers' lifelong learning tendencies across various fields on job satisfaction. Lifelong learning and job satisfaction are fundamental components of professional growth for teachers. Therefore, the study investigates the current status of these constructs through data obtained using validated scales. A cross-sectional survey model, a quantitative research method, was employed. Data were collected via a participant demographics form (gender, age, seniority, region, title, education), the Job Satisfaction Scale (JSS), and the Lifelong Learning Scale (LLS). These instruments were administered to 513 randomly selected teachers across Turkey. Statistical analyses were conducted using MANOVA and Multiple Linear Regression techniques. The findings indicated that teachers' job satisfaction and lifelong learning levels varied significantly based on demographic factors. Moreover, lifelong learning was found to be a statistically significant predictor of job satisfaction. The study discusses these results in light of existing literature and emphasizes the critical role of lifelong learning in enhancing professional satisfaction among teachers. The findings highlight the need to promote lifelong learning competencies to foster motivation and effectiveness in educational settings. By addressing variables often neglected in prior studies, such as job title and region of employment, this research contributes to filling a gap in the literature and offers a novel perspective on teacher training and educational development.

Introduction

Education entails a long process from an individual's birth to death. It began with the first human being and has progressed cumulatively for the current generation. The concept of education has changed over time, reflected in educational institutions, philosophies, approaches, and instructional methods. This change has been a necessity rather than a choice. In times when progress was slow—sometimes lasting centuries—educational and instructional activities were sufficient to meet individuals' and society's expectations (Yıldırım, 2024), while current educational institutions often fail to meet the expectations of contemporary society and individuals. Globalization requires individuals to constantly revise

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their knowledge, skills, and competencies (Yalçın İncik, 2020), necessitating lifelong learning.

The recent rapid and continuous advances in knowledge (Memişoğlu and Tarhan, 2016) have rendered knowledge-based instruction dysfunctional in schools.In this age, individuals must develop constant reading, learning, research, questioning, structuring, and transferring skills. This has created a need for individuals who engage in lifelong research, structuring their knowledge through experience and ensuring a place for lifelong learning in educational literature. The rapid advances and experiential transformations due to significant changes in living conditions and new requirements of the 21st century have increased the significance of lifelong learning (Yıldırım, 2024). Tekedere and Göker (2023) described lifelong learning as "a continuous process that emphasizes lifelong learning and aims to develop or change the competencies that individuals have or want to have throughout their lives." Thus, in the 21st century, individuals are expected to acquire skills that allow them to revise, develop, reinforce, and change their knowledge, skills, values, and literacy acquired at school. This is extremely important for 21st-century individuals and societies.

Since lifelong learning is one of the essential traits of 21st-century individuals, institutions have emphasized lifelong learning and conducted educational activities, especially descriptive studies.

- The Council of Europe (1970) described lifelong learning as "all learning activities conducted individually, socially, or for employment to improve knowledge, skills, and competencies."

- The European Lifelong Learning Initiative described lifelong learning as "a continuous supportive process that encourages individuals to acquire the knowledge, values, skills, and understanding they need throughout their lives and to apply them with confidence, creativity and joy in all roles, conditions and environments" (Watson, 2003).

Other institutions have published additional descriptions of lifelong learning. Because of the significance of lifelong learning, educational research has concentrated on this topic. According to Yıldırım (2024), the continuous renewal, development, and transfer of the knowledge, skills, values, literacy, and competencies necessary to acquire basic life skills at any age have placed lifelong learning at the center of education. Güneş and Deveci (2021) argued that the importance of lifelong learning varies within education, and the individual benefits of educational activities such as "adult education," "continuous education," "vocational education," and "self-learning" are crucial for development. Every professional should engage in continuous learning. It is particularly crucial for teachers to possess lifelong learning competencies.

Teachers should possess certain traits as lifelong learners to participate in society, engage with the education system, keep up with technological advances, and contribute to society's learning. Thus, lifelong learning entails the renewal, revision, improvement, and transfer of pedagogical knowledge, technological, and cultural competencies by teachers. Since teachers shape social life, lifelong learning competencies (Sapieva et al., 2023) are essential for social development and the future of society. It has been foreseen that teacher competencies that enable the application of professional and field knowledge can influence learner outcomes on a small scale and educational efficiency on a larger scale (Yalçın İncik, 2020). Furthermore, teachers' lifelong learning skills are expected to impact both their own and their students' development and lives (Yıldırım, 2024).

Lifelong learning is a powerful tool for teachers to continuously develop their professional skills. Developments in various fields, especially in economic and social life, require educational institutions and teachers to revise their field-specific, vocational, and cultural knowledge. Teachers can employ multiple methods for professional development. Open online courses for the masses serve the United Nations' sustainable development goal, which aims to "provide inclusive and equitable quality education and promote lifelong learning for all" by 2030 (Ogunyemi et al, 2022). To be part of society, the education system, and to keep up with technological advances while contributing to a learning society, it is a necessity, rather than a choice, for teachers to be lifelong learners (Finsterwald et al., 2013; Sapieva et al., 2023). Furthermore, job satisfaction is expected from teachers who develop professionally. The concept of job satisfaction has been described as "the positive emotional state that all aspects of individuals' job and professional lives create in their mood and the combination of these emotions" (Çetinkanat, 2000).Lifelong learning strongly affects teachers' job satisfaction since it provides opportunities for professional self-development and self-realization. Teachers' job satisfaction leads to better job performance. The lifelong learning approach enables teachers to achieve job satisfaction by improving professional success due to its positive effect on job performance (Drewery et al, 2023).

Several studies have been conducted in the literature on job satisfaction (Çelikgün et al., 2024; Cherecheş et al. 2024; Cubelo et al. 2024; Diakomihalis, 2024), job satisfaction of teachers (Li and Yu, 2022; Liu and Watson, 2023; Smet, 2021; Madigan and Kim, 2021), lifelong learning (Allen et al., 2024; Rawas, 2024; Thwe and Kalman, 2024; Nguyen et al. 2024; Yıldırım, 2024), and lifelong learning among teachers (Kilag et al. 2024; Korucu and Şahan, 2024; Şen and Yıldız Durak, 2021; Zhou and Tu, 2021). These studies investigated the impact of lifelong learning on the job satisfaction of teachers based on gender, age, and educational level; however, previous research did not explore the region of employment or professional title. Thus, it can be suggested that the present study aims to fill this gap in the literature.The lack of a similar study underscores the originality of the current research, indicating that it will address the aforementioned gap and introduce a novel perspective on teacher training, demonstrating its significance. In this context, the main purpose of the research is to examine the effect of the lifelong learning tendencies of teachers working in different branches on their professional satisfaction. The hypotheses explored in this research are as follows:

H1: Are there statistically significant differences between "Compliance with Qualifications," "Development Opportunity," and "Lifelong Learning" scores based on gender?

H2: Are there statistically significant differences between "Compliance with Qualifications," "Development Opportunity," and "Lifelong Learning" scores based on age?

H3: Are there statistically significant differences between "Compliance with Qualifications," "Development Opportunity," and "Lifelong Learning" scores based on seniority?

H4: Are there statistically significant differences between "Compliance with Qualifications," "Development Opportunity," and "Lifelong Learning" scores based on region of employment?

H5: Are there statistically significant differences between "Compliance with Qualifications," "Development Opportunity," and "Lifelong Learning" scores based on job title?

H6: Are there statistically significant differences between "Compliance with Qualifications," "Development Opportunity," and "Lifelong Learning" scores based on educational level?

H7: Does the variable "Lifelong Learning" statistically significant predict "Job Satisfaction"?

Method

In this study, a cross-sectional survey was conducted. Surveys are commonly used to assess participants' interests, opinions, attitudes, and skills related to a specific topic or context (Büyüköztürk et al, 2014). Cross-sectional surveys are commonly conducted with large samples (Lodico et al, 2006). Since the job satisfaction and lifelong processes of teachers in different branches are ongoing concepts, the current status was described based on the data collected using the scales.

Participants

A total of 586 random teachers were contacted to complete the scales. Seventy-three participants who did not finish the entire survey were excluded from the study. Consequently, the responses of 513 teachers were analyzed. The demographics of the 513 participants are presented below.

Table 1:Participant demographics

Variable	Group	Frequency (f)	Percentage (%)
Gender	Male	294	57.31
	Female	216	42.11
	N/A	3	0.58
Age	41 and older	186	36.26
	31-35	128	24.95
	36-40	106	20.66
	20-30	93	18.13
Seniority	1-10 years	215	41.91
	11-20 years	171	33.33
	20-30 years	127	24.76
Region of Employment	Town	227	44.25
	Urban center	220	42.88
	Village	40	7.8
	N/A	26	5.07
Title	Teacher	243	47.37
	Specialist Teacher	234	45.61
	Principal	31	6.04
	N/A	5	0.97
Education	Undergraduate	340	66.28
	Graduate	171	33.33
	N/A	2	0.39

Power Analysis

In the study, the sample size was determined through *a priori* power analysis. Power analysis was performed using MANOVA and an F-test with $\alpha = 0.05$, $(1-\beta) = 0.95$ power level, and f^2 (V) = 0.0625 effect size. The analysis indicated that at least 154 participants were necessary to achieve sufficient power (95.1%) across 17 groups, with 5 independent and 3 dependent variables. The survey included 514 individuals. A post-hoc power analysis was conducted on the 514 individuals, confirming the test power ($1-\beta$ err prob) as 1.00. The analysis validated the adequacy of the sample size and the statistical power required to test the hypotheses.

Collection Instruments

Demographic Information Form: Participant demographics, including gender, age, seniority, region of employment, job title, and education level, were collected using a personal information form developed by the authors. The findings are presented in Table 1.

Job Satisfaction Scale (JSS): The Job Satisfaction (JS) scale items measure how well professional activities align with interests and skills, as well as the levels of responsibility, and opportunities for development and advancement. Fourteen out of the twenty scale items are positive, while six are negative. It utilizes a 5-point Likert-type scale that consists of two factors. The first factor is 'compliance with qualifications' (CQ), which is assessed by fourteen items. The second factor is 'development opportunity' (DO). The author reported that the development opportunity factor could also evaluate the desire for growth. The internal consistency coefficient of the scale is .90 (Kuzgun, Aydemir Sevim, & Hamamcı, 1999).

Lifelong Learning Scale (LLS): The 5-point Likert-type Lifelong Learning Scale developed by Wielkiewicz and Meuwissen (2014) includes 16 items. Engin, Kör, and Erbay (2017) adapted the scale to the Turkish language, which contains 15 items. The scale assesses lifelong learning as a single factor. The reliability coefficient of the scale is 0.93. The findings confirmed that this scale is applicable in Turkey for determining the lifelong learning (LL) level of teachers. The two scales employed in the study were applied online via "Google Docs."

Data Analysis

The study data were analyzed using MANOVA and Multiple Linear Regression. As shown in Table 1, MANOVA was applied to the groups based on the study variables. The gender and education level variables included two groups, while the other variables had more than two groups. Since the independent variables of gender and education level are examined in relation to three dependent variables, MANOVA was preferred over the independent samples t-test to minimize Type I error. To estimate the impact of CQ and DO on lifelong learning, Multiple Linear Regression was utilized. JSS shows a statistically significant negative skewness, while its kurtosis falls within normal limits; by contrast, LSS displays skewness (-0.189) and kurtosis (-0.196) values indicative of acceptable symmetry and normality.

Statistical analyses were conducted using Python software (version 3.12.0). Data libraries such as Pandas, NumPy, and Statsmodels were employed for data analysis. The analysis took place on PyCharm (2024.3.1.1; Community Edition). The effect size was calculated using Cohen's method (1988; d = .20, .50, .80; eta squared = .01, .06, .14 as small, medium, and large, respectively).

Findings

Descriptive findings and the analysis of JSS, JSS dimensions (CQ and DO), and LLS data are presented below:

Table 2:Descriptive Statistics for Job Satisfaction and Lifelong Learning Scales

	Mean	Median	SD	Min	Max
JS	3.792	3.900	0.640	1.150	5.0
CQ	3.804	3.923	0.750	1.076	5.0
DO	3.770	3.714	0.603	1.285	5.0
LL	3.804	3.800	0.560	2.000	5.0

Descriptive statistics demonstrated that the mean JSS score is 3.79 (SD = 0.64), the mean CQ score is 3.80 (SD = 0.75), the mean DO score is 3.77 (SD = 0.60), and the mean LLS score is 3.80 (SD = 0.56). These findings demonstrate that the participant scores were generally high. The data exhibited a symmetrical distribution since the means and medians were close together. The minimum and maximum values reflected the potential scale range.

Table 3.Gender-Based Comparison of CQ, DO, and LL Scores: MANOVA and Univariate Analyses (H1)

Variable	Gender	N	Median	SD	SS	df	MS	F	p	Cohen's d
CQ	Male	294	3.92	.767	0.255	1		0.452	.502	
CQ	Female	216	4.00	.730	287.069	508	0.565	–	–	
DO	Male	294	3.71	.617	1.687	1		4.669	.031	-.194
DO	Female	216	3.86	.578	183.538	508	0.361	–	–	
LL	Male	294	3.73	.594	3.730	1		12.066	.000	-.311
LL	Female	216	3.93	.499	157.070	508	0.309	–	–	

$p<.05$ Note: MANOVA assumptions were tested. Box's M was not significant ($p > .05$), indicating homogeneity of covariance matrices. Wilks' Lambda was used as the multivariate test statistic.

The results of Box's M test (χ^2=12.4, sd=6, p=0.054) conducted to assess the homogeneity of the covariance matrices were not significant, confirming the assumption. Gender had a statistically significant impact on the dependent variables at the multivariate level (Wilks' λ = .975, $F_{(3, 506)}$ = 4.18, p = .006). Gender significantly affected DO ($F_{(1, 508)}$ = 4.669, p = .031) and LL ($F_{(1, 58)}$ = 12.066, p < .001), but it did not significantly affect CQ ($F_{(1, 508)}$ = .452, p = .502). The DO scores differed based on gender, and the difference was significant in the LL scores. Gender had a small effect size on both DO and LL, while the impact was more pronounced in LL.

Table 4.Age Differences in CQ, DO, and LL Scores: MANOVA and Univariate Results (H2)

Variable	Age	N	Median	SD	SS	df	MS	F	p
CQ	20-30	93	3.85	.720					
CQ	31-35	128	3.85	.791	2.822	3	0.941	1.678	_.170
CQ	36-40	106	3.85	.713	285.340	509	0.561	_	
CQ	41+	186	4.08	.753					
DO	20-30	93	3.86	.618					
DO	31-35	128	3.86	.657	0.887	3	0.296	0.812	.487
DO	36-40	106	3.71	.573	185.366	509	0.364	_	_
DO	41+	186	3.71	.574					
LL	20-30	93	3.93	.528					
LL	31-35	128	3.80	.513	2.840	3	0.947	3.044	.028
LL	36-40	106	3.73	.537	158.293	509	0.311	_	_
LL	41+	186	3.80	.611					

$p<.05$

A statistically significant multivariate effect of age on the dependent variables (CQ, DO, LL) was found, **Wilks' λ = .961, F(9, 1234) = 2.238, p = .0177**, indicating that the mean vectors differed across age groups. Box's M test was not significant (**χ^2 = 26.3, df = 18, p = .093**), supporting the assumption of homogeneity of covariance matrices. Subsequent univariate ANOVAs revealed that **age had a statistically significant effect only on the LL variable**, **F(3, 509) = 3.0442, p = .0285**. However, **post hoc comparisons** using both **Bonferroni and Tukey HSD** methods showed **no statistically significant pairwise differences** between age groups (**p > .05**), suggesting that while group means differ overall, none of the specific pairwise comparisons were large enough to reach significance after correction. No significant effects of age were found for **CQ** or **DO** variables, indicating that these outcomes were not influenced by age group membership.

Table 5.Comparison of CQ, DO, and LL scores based on seniority: MANOVA, Univariate Analysis (H3)

Variable	**Seniority**	**N**	**Median**	**SD**	**SS**	**df**	**MS**	**F**	**p**
CQ	1-10 years	215	3.92	.727					
CQ	11-20 years	171	3.92	.771	2.17	2	1.086	1.94	.145
CQ	20-30 years	127	4.08	.755	285.99	510	0.561	-	-
DO	1-10 years	215	3.86	.599					
DO	11-20 years	171	3.71	.625	0.856	2	0.428	1.18	.309
DO	20-30 years	127	3.71	.578	185.39	510	0.364	-	-
LL	1-10 years	215	3.80	.519					
LL	11-20 years	171	3.80	.561	1.48	2	0.740	2.37	.095
LL	20-30 years	127	3.73	.621	159.65	510	0.313	-	-

$p<.05$

Wilks' lambda (λ = .975, $F_{(6, 1016)}$ = 2.14, p = .047) indicated that the multivariate effect on all three dependent variables was statistically significant. The one-way ANOVA performed for each dependent variable showed no statistically significant difference.

Table 6.Comparison of CQ, DO, and LL scores based on region of employment: MANOVA, Univariate Analysis (H4)

Variable	**Location**	**N**	**Median**	**SD**	**SS**	**df**	**MS**	**F**	**p**
CQ	Town	220	3.92	.803					
CQ	Urban	227	4.00	.696	2.35	2	1.173	2.08	.126
CQ	Village	40	3.96	.752	272.78	484	0.564	-	-
DO	Town	220	3.71	.616					
DO	Urban	227	3.71	.594	0.019	2	0.009	0.027	.973
DO	Village	40	3.86	.571	175.37	484	0.362	-	-
LL	Town	220	3.80	.571					
LL	Urban	227	3.80	.551	0.383	2	0.192	0.609	.544
LL	Village	40	3.87	.561	152.25	484	0.315	-	-

$p<.05$

Wilks' lambda (λ = .982, F(6, 964) = 1.49, p = .177) indicated that the multivariate effect of the region variable (urban, town, village) on the three dependent variables (CQ, DO, LL) was not statistically significant. Additionally, the results of the one-way ANOVA conducted on each dependent variable (CQ, DO, LL) were not statistically significant.

Table 7. Comparison of CQ, DO, and LL scores based on job title*:* MANOVA, Univariate Analysis (H5)

Var	Job Title	N	Median	SD	SS	df	MS	F	p	η^2	(Bonf.) Sig.	Cohen's d
CQ	Teacher	243	3.92	.725							1-3 .002	-0.647
CQ	Specialist Teacher	234	3.92	.780	7.66	2	3.829	7.00	.001	.027	2-3 <.001	-0.714
CQ	Principal	31	4.23	.500	276.30	505	0.547					
DO	Teacher	243	3.86	.583								
DO	Specialist Teacher	234	3.71	.612	2.08	2	1.041	2.93	.055			
DO	Principal	31	3.71	.584	179.61	505	0.356					
LL	Teacher	243	3.80	.511								
LL	Specialist Teacher	234	3.73	.592	2.43	2	1.215	3.91	.021	.015	1-2 .018	0.252
LL	Principal	31	3.73	.639	157.06	505	0.311					

$p<.05$

The results of Box's M test (χ^2=22.9, sd=12, p=0.029), which was conducted to test the homogeneity of covariance matrices, were significant, confirming the assumption. Pillai's Trace (0.0468, $F_{(6,1008)} = 4.03$, p = .001) indicated that there were statistically significant differences among the three dependent variables based on job title (MANOVA). A statistically significant difference was found between CQ ($F_{(2, 505)} = 7.00$, p = .001) and LL ($F_{(2, 505)} = 3.91$, p = .021) scores based on job title; however, no significant difference was identified for the DO scores ($F_{(2, 505)} = 2.93$, p = .055). A post hoc test (with Bonferroni correction) was applied to the significant variables and associated groups.

The analysis results showed that the effect of the job title variable on CQ was statistically significant, $F_{(2,505)}$=7.00, p=0.001. The eta squared ($\eta 2$=0.027) value indicated that the effect was small. The negative value suggested that the mean principal group score was higher than that of the teacher group. Cohen's d (−0.6473) suggested that the effect size was above the moderate level. The negative value indicated that the mean principal group score was higher than that of the specialist teacher group. Cohen's d (−0.7141) indicated a moderate effect size.

The findings demonstrated that the effect of a change in job title on LL was statistically significant ($F_{(2, 505)}$=3.91, p= .021). The eta squared ($\eta 2$=0.015) value indicated that the effect was small. A post hoc comparison between groups showed that the mean teacher group score was higher than that of the principal group. Cohen's d (0.0371) suggested a small effect size.

Table 8. Comparison of CQ, DO, and LL scores based on education level: MANOVA, Univariate Analysis (H6)

Variable	Education Level	N	Median	SD	SS	df	MS	F	p	Cohen's d
CQ	Undergraduate	340	4.00	.778	0.173	1	0.173	0.307	.580	
CQ	Graduate	171	3.85	.690	285.91	509	0.562	-	-	
DO	Undergraduate	340	3.71	.619	1.94	1	1.942	5.38	.021	-0.217
DO	Graduate	171	3.86	.564	183.91	509	0.361	-	-	
LL	Undergraduate	340	3.80	.559	1.19	1	1.191	3.82	.051	
LL	Graduate	171	3.80	.556	158.58	509	0.312	-	-	

$p<.05$

MANOVA (Wilks' Lambda λ = .976, $F_{(3,507)} = 4.10$, p = .007) revealed a statistically significant difference between the groups. The univariate tests identified a significant difference only in CQ ($F_{(1,509)} = 5.376$, p = .021). In the post hoc comparison, the mean score of the undergraduate group was lower, and the effect size was small (d = -0.217). The difference was borderline in LL (p = .051) and not statistically significant in CQ.

Table 9.Predictive Relationship Between Lifelong Learning and Job Satisfaction: Multiple Regression Analysis (H7)

Predictor	B	SE	β	t	p	95% CI
Constant (Intercept)	2.345	0.183	-	12.81	< .001	[1.985, 2.704]
LL	0.381	0.048	.334	8.00	< .001	[0.287, 0.474]

$Not. R = .334, R^2 = .111, Adj. R^2 = 110, F(1,511) = 64.0, p < .001.$

$B = Coefficient\ estimate, \beta = Standard\ Coefficient, SE = Standard\ Error;\ CI = Confidence\ Interval$

Note: Multiple regression assumptions (normality, linearity, homoscedasticity) were met. The model was significant (F = ..., p < .05). R² indicates explained variance.

A **multiple regression analysis** was conducted to examine whether **lifelong learning (LL)** significantly predicts **job satisfaction (JS)**. The model was statistically significant, **F(1, 511) = 64.0, p < .001**, indicating a meaningful linear relationship between LL and JS. LL accounted for approximately **11% of the variance** in job satisfaction (**R² = .111, Adjusted R² = .110**). The regression coefficient showed that, **holding other factors constant**, each **one-unit increase in LL** was associated with a **0.38-unit increase in JS** (**B = 0.38, SE = 0.05, p < .001**), suggesting a moderate positive effect.

Discussion and Conclusion

H1 The analysis of the impact of lifelong learning skills of teachers on their job satisfaction based on gender revealed a significant correlation between only LL and DO scores of the teachers and gender. The median scores of females were slightly higher in all variables (male CQ < DO < LL female). Female teachers demonstrated higher levels of lifelong learning tendencies and job satisfaction compared to their male counterparts. Various gender-based socialization processes could have contributed to this finding; in other words, it can be suggested that female perceptions and expectations to be more prepared than males due to potential difficulties they may encounter have influenced this outcome. No previous studies have investigated the impact of teachers' lifelong learning competencies on job satisfaction based on gender. Lifelong learning and job satisfaction have been studied separately.

Several studies have reported significant differences in lifelong learning based on gender. For instance, **Duymuş and Sulak (2018)**, **Hellaç Aksu and Reisoğlu (2024)**, **Babanlı (2019)**, **Ayra (2015)**, and **Dervişoğulları et al. (2016)** found that gender had a significant impact on lifelong learning levels. Specifically, **Diker Coşkun and Demirel (2012)** and **Yılmaz (2016)** concluded that **women exhibited significantly higher lifelong learning tendencies** compared to men. Supporting this trend, **Öz (2022)** conducted a meta-analysis of 51 studies and confirmed that **gender plays a significant role**, consistently favoring females in lifelong learning outcomes. Similarly, **Tanatar and Alpaydın (2019)**, **Moustakas (2018)**, and **Torun and Güvercin Şeçkin (2021)** also reported significant gender-based differences, with findings indicating that lifelong learning skills or levels vary between males and females.

Oğuztürk and Yıldırım (2024) found that job satisfaction significantly differed based on gender, favoring female teachers in their study investigating positive psychological capital and job satisfaction. Türkkan (2019) determined that the job satisfaction of public-school administrators and teachers was higher than that of men. Similarly, Çetinkaya et al. (2019)

reported that teachers' job satisfaction changed significantly based on gender. Üzümcü and Müezzin (2018) revealed that the job satisfaction levels of female teachers were higher compared to those of male teachers. Aslan (2006) found that job satisfaction levels were higher in men. Yılmaz and Mutlu (2024) reported that gender did not have a significant effect on job satisfaction, while the mean job satisfaction score of male participants was higher.

Gökyer (2019) observed no significant difference between the two variables; however, female teachers scored higher in lifelong learning compared to male teachers across all sub-dimensions. Demirbilek and Bozanoğlu (2023) did not report a significant difference in the life satisfaction levels of college students based on gender. Kılıç and Gümüşeli (2010) found that gender did not affect the intrinsic and extrinsic job satisfaction of academics. Çiftci and Çavuşoğlu (2016) concluded that job satisfaction remained unchanged based on gender.

H2. It was determined that there was no significant correlation between age and CQ and DO; however, age correlated with LL. However, post hoc analyses did not reveal any statistically significant differences in LL scores across age groups. The median age was over 40 in CQ and between 20 and 30 years in DO and LL. It is likely that those older than 40 felt professionally competent due to their experience, while those in their twenties and thirties had higher perceptions and expectations of lifelong learning due to greater development opportunities compared to those over 40. Oğuztürk and Yıldırım (2024) investigated the job satisfaction levels of teachers based on age and reported that teachers older than 45 had higher job satisfaction. Torun and Güvercin Şeçkin (2021) and Çetinkaya et al. (2019) found no significant difference in the lifelong learning skills of teachers based on age. The findings of the present study and previous studies suggest that lifelong learning can be influenced by age.

Moustakas (2018) determined a difference in lifelong learning based on age. The analysis demonstrated that this difference statistically significantly increased with the participants' age. Yelboğa (2007) reported a significant difference in job satisfaction levels among teachers based on age, favoring those 41 or older. Alıcı and Yalçınkaya (2019), Gedik (2019), Sarıöz (2015), and Özcan (2011) found no significant difference in job satisfaction levels based on age. Conversely, Babanlı (2019) and Kaya (2018) reported a significant difference based on age.

H3. There was no statistically significant difference between CQ, DO, and LL scores based on seniority. Alıcı and Yalçınkaya (2019) found that seniority did not have a significant impact on job satisfaction. However, Oğuztürk and Yıldırım (2024) reported a significant difference favoring those with 21 or more years of experience, similar to the age variable, in a study on the positive psychological capital and job satisfaction levels of teachers. Öksüz and Yiğit (2020) argued that teachers with 26 years of seniority or more had higher job satisfaction. Gökyer (2019) found a significant correlation between the motivation sub-dimension and seniority.

Torun and Güvercin Şeçkin (2021), Çetinkaya et al. (2019), and Kazu (2016) reported no significant difference in lifelong learning perceptions based on seniority. Similarly, Şahin and Arcagök (2014) found no significant difference regarding seniority. Kılıç and Gümüşeli (2010) indicated that professional seniority did not result in significant differences in the intrinsic and extrinsic job satisfaction of faculty members. However, Gedik (2019) reported a significant difference related to seniority. Ayaz (2016) reported a significant difference between the lifelong learning perseverance sub-dimension and seniority.

H4. There was no statistically significant difference in the CQ, DO, and LL scores of teachers based on their region of employment. Although the differences between the scores were insignificant, the median score of teachers employed in urban centers was higher in CQ, while the median score of teachers employed in villages was higher in DO and LL. This may be due to the perception that the services available in urban centers are more adequate compared to those in towns and villages. The scores of teachers employed in villages were slightly higher than those in other settings for DO and LL, suggesting that expectations or perceptions regarding professional development and continuous learning opportunities could be more positive in rural areas.

H5. There was a statistically significant difference in CQ and LL scores based on job title, while no difference was observed in DO scores. The median scores revealed that principals scored higher than teachers and specialist teachers in CQ. Thus, the competency of the principals in qualifications and expectations was higher, and they had a stronger perception of adequacy than others. The scores of all three groups were similar in development opportunity; however, inexperienced teachers may have had higher perceptions about development opportunities. All three groups prioritized lifelong learning; however, there were insignificant differences between their perceptions. In general, the findings suggest that job title and professional experience can play a key role in educators' perceptions of professional competence.

H6. There was no statistically significant difference in CQ and LL scores based on educational level; however, a difference was observed in DO. Participants with undergraduate degrees had higher CQ scores than those with graduate degrees. The perceptions of teachers with graduate degrees regarding their jobs or careers could have been more positive. The median DO score of teachers with graduate degrees was higher than that of those with undergraduate degrees. This may result from graduate degree holders having more optimistic expectations regarding career development and skill acquisition. No difference was observed between lifelong learning scores based on education level, demonstrating that educational level did not significantly impact teachers' perceptions of lifelong learning.

The literature review revealed findings similar to those of the present study. Oğuztürk and Yıldırım (2024) did not report a significant difference between the positive psychological capital and job satisfaction levels of teachers based on their education level. Kılıç and Gümüşeli (2010) argued that education level did not lead to significant differences in the intrinsic and extrinsic job satisfaction levels of faculty members.

Torun and Güvercin Şeçkin (2021) concluded that there was no significant difference in the lifelong learning skills of teachers based on their education levels. Akpınar (2019) reported no significant difference in lifelong learning skills based on education level. Ayaz (2016) reported similar findings. Çetinkaya et al. (2019) noted that the mean lifelong learning sub-dimension scores of those who desired postgraduate education were higher than those who did not. Gökyer (2019) found that the lifelong learning motivation sub-dimension scores of teachers with a bachelor's degree were lower than those with a graduate degree.Abbak (2018) found a significant difference between the lifelong learning scores and innovation levels of teachers with graduate degrees. Similarly, Yaman and Yazır (2015) found high lifelong learning levels among those with graduate degrees. Diker Coşkun (2009) reported that since individuals attend postgraduate education for personal development rather than to acquire a profession, and this is entirely based on individual preferences, there was a significant difference in lifelong learning attitudes.

H7. The LL variable statistically significant predicted the DO level. The multiple regression analysis revealed a significant linear correlation between LL and DO. In the model, each unit increase in LL was associated with a .38 unit increase in DO, demonstrating that teachers who prioritized lifelong learning had higher job satisfaction. Demirbilek and Bozanoğlu (2023) reported that lifelong learning levels of college students was a significant predictor of their life satisfaction. Torun and Güvercin Seçkin (2021) also reported similar findings. Torun and Güvercin Seçkin (2021) concluded that teachers' lifelong learning skills significantly and linearly predicted their job satisfaction. Akyol et al. (2018) also found a weak, positive and significant correlation between life satisfaction and lifelong learning. Kılıç and Gümüşeli (2010) determined that the general job satisfaction levels of faculty members were high.

Recommendations:

Considering the findings of this research and previous studies, a strong correlation exists between teachers' job satisfaction and lifelong learning skills. Therefore, the following recommendations can be made:

- It can be suggested that lifelong learning strongly impacts job satisfaction. Therefore, lifelong learning skills should be developed in teacher training schools, which are the initial steps of professional development. To improve teachers' lifelong learning skills, specific courses and activities, such as research projects, should be conducted frequently in undergraduate teacher training.
- One of the factors that affect the development of lifelong skills and, consequently, job satisfaction is postgraduate education. Teachers should be encouraged to attend postgraduate schools, with these institutions facilitating this process. Teachers' self-improvement involves transferring experiences and knowledge to the school, especially to the classroom.
- Teachers should be encouraged to engage in the projects sponsored by various institutions and organizations, especially TUBITAK and the European Union. In doing so, they can enhance their own development and contribute to the growth of their students.
- The involvement of teachers in training activities offered by various institutions should be encouraged.
- The career development of teachers new to the profession should not be based solely on seniority but also on productivity and professional development. This way, teachers can enhance their skills. They should be encouraged to participate in scientific conferences and publish in national and international journals.

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