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Relations of In-service Science Teachers' Career Motivation with Demographic Variables[1]

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Abstract

Teachers' career motivation is an important factor affecting the education process. In this study, the relations between science teachers' career motivations and demographic variables (gender, school location and professional experience) were examined. A total of 136 science teachers working at state middle schools in Muğla Province participated in the study. FIT-Choice Scale was used as data collection tool. Data were collected in the Spring 2019 semester. In data analysis, descriptive statistics, independent sample t-test and one-way ANOVA tests were used. The results of the analysis showed that the career motivation of science teachers was at moderate level. In terms of gender, differences were found in the sub-dimensions of expertise, difficulty, social impact, and fallback career. In addition, analysis showed that there was a difference in the sub-dimensions of difficulty, social status, social pressure, enhance social equality, social contribution, determining the future of students and previous experiences in terms of school location. In terms of professional experience, in only the sub-dimension of job security, a statistically significant difference was found. The results of the study suggest that teachers should receive more financial and moral support from their environment.

INTRODUCTION

Schools are a social structure that includes students, teachers and parents. Among these, teachers greatly influence students' intellectual and personal development so that teachers play crucial roles to achieve the educational outcomes (Eryılmaz, 2013). Sometime they act as role models for their students and other times guide knowledge they want to acquire. In the Science Education Curriculum published by the Ministry of Turkish National Education ([MEB], 2018), it is stated that every education system rises on the shoulders of teachers and cannot exceed the quality of a teacher. Considering the importance of teachers on the educational outcomes, teachers are the cornerstone of the education system.

Teachers are expected to foster students with 21st century life skills, prepare them for the professional life, and be a role model to be a good citizen (Ertürk, 2016). Like other countries, Turkish national education system aims to raise individuals with 21st century life skills and innovative thinking (MEB, 2018). These expectations require teachers who are willing and highly motivated in schools with a good working atmosphere. Here, the importance of teachers' motivation emerges. Motivation is the driving force for the behavior of the individual has made

it one of the most important factors in highlighting the effectiveness of the learning-teaching process (Akbaba, 2006).

Teachers' professional competencies, perceptions and motivations of are some important inputs for students' achievement and for educational outcomes within the education system. In this context, it is necessary to increase the career motivation of the teacher for a qualified education (MEB, 2018). To do this, in the 2023 Education Vision it was stated that school environments with a self-renewing development vision that motivate students and teachers, make them feel valuable and happy will be enhanced. In addition, the three-year concrete targets of the Ministry of Turkish National Education include that the professional satisfaction of teachers will be increased. The efficient operation of the science program, whose aim is to develop scientific process, life, and engineering skills, to prepare students according to the requirements of the 21st century, to create career awareness, to train individuals who produce entrepreneurs and to ensure their development, can only be possible with willing and highly motivated science teachers in schools with a suitable working atmosphere.

Motivation refers to the internal and external driving force that provides energy for individuals to fulfill their duty and succeed to meet expectations and needs (Duy, 2017). Many theories have been developed to investigate the motivations of teachers and students in teaching-learning process. One important motivation theory is the expectation-value theory. JW Atkinson, one of the pioneers of this theory, has worked on the expectation-value theory for both academic and career motivation and stated that the probability of perceived success is equal to motivation multiplied by the motivational value of success (Duy, 2017). In other words, the motivation of a person to achieve a task depends on the probability of achieving that task and how valuable he/she sees this task (Duy, 2017). Watt and Richardson (2007) adapted the expectancy-value theory to investigate teachers' career motivations and the factors affecting teacher selection, called the FIT- Choice framework. In this framework, there are two upper dimension of career motivation as perception and motivation. Perception includes salary, difficulty, social status, expertise, social dissuasion and satisfaction with choice. Motivation includes time for family, working with children, enhance social equity, intrinsic career value, job transferability, job security, shape future of students/adolescents, prior teaching experiences, social influences, make social contribution, fallback career and ability.

FIT- Choice has been used in many educational studies. Kılınç, Watt and Richardson (2012), for instance, studied 1577 pre-service teachers' career motivation and concluded that the make social contribution had the highest mean among the motivation sub-dimension (M=6.16) whereas the fallback career (M=3.07) has the lowest mean. In another study, Bruinsma and Canrinus (2014) examined teacher candidates' career motivation. They reported that difficulty (M =5.93) and expertise (M =5.57) sub-dimensions had the highest mean score while social impact (x M=2.14) and time with family (M =2.81) sub-dimension were the lowest.

Watt, Richardson, Klusman, Kunter, Beyer, Trautwein and Baumert (2012) investigated teacher career motivation with a cross-cultural study. The sample of the study consists of 2290 teacher candidates studying in Australia, USA, Germany and Norway. According to the results of the analysis, many differences were found between the career motivations of teacher candidates in different countries. Accordingly, while the US teacher candidates had the highest average score in the sub-dimensions of teaching ability and social contribution, it was seen that the average scores in Australia, Germany and Norway were low. In the sub-dimensions of working with children and social impact, the average scores of pre-service teachers in Germany and the USA were the highest, while it was the lowest in Australia and Norway.

In the literature, studies addressing teachers' career motivations from FIT-Choice framework generally focus on teacher candidates and few studies on the career motivation of in-service teachers. Some studies have been focused on in-service teachers' job motivation in Turkey, however, we have not located any study using the FIT-Choice framework to map in-service teachers' career motivation. The FIT-Choice framework is based expectancy-value theory which is developed to understand individuals' career related choice (Alpaslan et al., 2018). Furthermore, the FIT-Choice is related to teachers' teaching career motivation, defined as a long-term endeavor and process last the whole life; thus, it is different from job motivation, which is more related to the work for earning money (Watt & Richardson, 2007). Therefore, it is important to investigate in-service teachers' career motivation, especially science teachers in Turkey, that it will be a source for future studies and that it will contribute to the improvement of the teaching profession in education policies. This study focused on the following research questions.

1. What are science teachers' career perception and motivation levels?
2. Do teachers' career motivations change according to demographic characteristics (gender, school location and professional year)?

METHOD

Research Model

To address research questions, cross-sectional and relational research models were used. While the cross-sectional model was used to reveal the existing situation, the relational research model was to determine the relationships between two or more variables (Büyüköztürk et al., 2013).

Participants

Science teachers who worked at middle schools in Mugla Province were determined as the accessible population to save money and time. There were 451 science teachers working at middle schools in Muğla in the spring semester of 2018-2019 academic year. We tried to reach out all science teacher to maximize the sample. The sampling method of the study was the simple random sampling and maximum variation. In the simple random sampling method, all participants have an equal chance of being selected, and the number of those entering the sample is left to chance (Karasar, 2016). Data collection tools were sent out to all schools in the Mugla District. 136 science teachers working in public and private middle were voluntarily participated in the study and filled the surveys. The demographic characteristics of the teachers participating in the study were given in Table 1.

Table 1. Demographic characteristics of participants

		f	%
Gender	Female	88	62.9
	Male	48	35.1
School location	Rural	45	15.9
	Urban	91	82.1
Professional experience	0-5 years	11	7.3
	6-10 years	34	15.8
	11-15 years	31	23.8
	16-20 years	31	21.2
	21 years and above	29	20.5
Total		136	100

Data Collection Tool

In this study, "Personal Information Form" and "FIT Choice Scale" were used as data collection tools.

Personal Information Form

In the personal information form, there were questions about gender, school location (rural/urban), and how many years of science teaching experience they had.

FIT Choice Scale

The FIT- Choice Scale was developed by Watt and Richardson (2007) to evaluate teachers' career motivation according to the FIT- Choice framework. The FIT- Choice Scale was adapted into Turkish culture by Eren and Tezel (2010) and has been used by different researchers (Alpaslan, Ulubey, & Yildirim, 2018; Deniz, Doğan and Şahin, 2018; Kılınç, Watt and Richardson, 2012). The FIT- Choice Scale consists of two upper dimensions (motivation and perception) and eighteen sub-dimensions in total. Motivation upper dimension consists of twelve sub-dimensions: *time for family, social influences, ability, make social contribution, job transferability, shape future of students/adolescents, working with children, fallback career, job security, enhance social equity* and *prior teaching experiences*. Perception upper dimension consists of *salary, difficulty, social status, expertise, social dissuasion,* and *satisfaction with choice*. The FIT- Choice scale was developed on a 7-point Likert type ranging from "1= not at all" to "7= extremely much" and consists of 59 items in total. Sample item for each sub-dimension was given in Table 2. Deniz, Doğan, and Şahin (2018) performed confirmatory factor analysis for the construct validity of the scale and showed that the fit values (χ^2 (84) = 613.40, RMSEA= .066, CFI= .979) had a good fit index. In addition, Deniz, Doğan, and Şahin (2018) showed that the Cronbach Alpha values of the motivation dimension for the internal consistency coefficient were between .53 and .93, and the perception dimension ranged between .59 and .89. In this study, Cronbach's alphas for internal reliability were calculated and given in Table 2. Cronbach's alpha values of the FIT- Choice scales ranged from .71 to .86 and were at an acceptable level.

Table 2. Internal-consistency values of FIT- Choice scale sub-dimensions

	Sub-dimensions	**Sample item**	**Internal-consistency**
Perception	Salary	Do you think teaching pays well?	.75
	Difficulty	Do you think teaching is a difficult job?	.71
	Social status	Do you think teachers feel that their profession has a high status in society?	.72
	Expertise	Do you think the teaching requires a high level of specialist knowledge?	.79
	Social dissuasion	Have others influenced you to consider careers other than teaching?	.76
	Satisfaction with choice	How carefully did you consider becoming a teacher?	.81
Motivation	Intrinsic career value	I chose teaching because I have an interest in teaching.	.84
	Time for family	I chose teaching because being a part time teacher will allow me to spend more time with my family.	.73

Social influences	I chose teaching because the people I work with think I should be a teacher.	.74
Ability	I chose teaching because I have the qualities of a good teacher.	.76
Make social contribution	I chose teaching because teaching will allow me to pay off my debt to society.	.78
Job transferability	I chose teaching because as a teacher I can work in different countries	.74
Shape future of students/adolescents	I chose teaching because teaching will allow me to shape the values of children/adolescents.	.84
Working with children	I chose teaching because I love working with children/adolescents.	.83
Fallback career	I chose teaching because I wasn't sure what career I wanted.	.86
Job security	I chose teaching because teaching will offer me a secure career.	.77
Enhance social equity	I chose teaching because teaching would allow me to be of benefit to low socioeconomic children.	.84
Prior teaching experiences	I chose teaching because I had teachers who inspired me.	.80

Data Collection and Analysis

The data were collected in the spring term of 2018-2019 in line with the permission of the Mugla Provincial Education Directorate. Ethics committee approval was not obtained because the ethics committee was not requested for academic studies in the period of data collection. Participants were given 30 minutes to complete the data collection tool. More than one statistical method was used in data analysis. First, internal consistency was analyzed in data. Then normality and distributions were examined. Since the skewness and kurtosis values given in Table 3 were between -1 and +1, the data were accepted as showing a normal distribution. For the first research question, the mean value and standard deviation were calculated in order to determine the level of teachers in each variable. In order to address the second research question, t-test and one-way ANOVA analysis were performed in SPSS statistical software.

RESULTS

In this part of the study, first, descriptive statistics on science teachers' career perceptions and motivations were presented. Then, the results of the relational analysis regarding the relations of teacher career motivation with demographic characteristics (gender, school location, and the professional experience) were given.

Descriptive Results

The results regarding the mean (M) and standard deviations (SD) of science teachers' career perceptions and motivations were given in Table 3. The results showed that science teachers had moderate mean scores in both perception (M= 3.98) and motivation (M= 4.75) dimensions (1.00-3.00 = low, 3.01-5.00 = moderate and 5.01-7.00 = high). In the sub-dimensions of perception, the highest were in difficulty (M = 5.38) and the lowest were measured in salary (M = 2.64). In the motivation, the highest mean value was computed in social contribution (M =5.47) and the lowest was in the fallback career (M =2.79).

Table 3. Descriptive statistics on science teachers' career perceptions and motivation

Sub- dimensions	Mean	SD	Skewness	Kurtosis
Perception	3.98	1.13	0.22	-0.19
Salary	2.64	0.88	0.10	-0.21
Difficulty	5.38	1.07	-0.84	0.59
Social status	3.07	0.94	0.13	-0.22
Expertise	5.11	1.15	-0.30	-0.50
Social dissuasion	3.08	1.47	0.50	-0.24
Satisfaction with choice	4.58	1.30	-0.14	-0.43
Motivation	4.75	0.96	-0.39	0.10
Time for family	3.85	1.14	-0.28	0.14
Working with children	5.03	1.12	-0.66	0.85
Enhance social equity	4.91	1.15	-0.51	0.19
Intrinsic career value	5.25	1.25	-0.68	0.23
Job transferability	3.95	1.29	-0.01	-0.45
Job security	4.33	1.11	-0.17	-0.15
Shape future of students/adolescents	5.42	1.10	-0.86	0.58
Prior teaching experiences	5.24	1.19	-0.88	0.65
Social influences	4.13	1.41	-0.25	-0.44
Make social contribution	5.47	0.92	-0.42	-0.31
Fallback career	2.79	1.48	0.60	-0.47
Ability	5.40	0.96	-0.34	-0.33

Teacher Motivation and Demographic Variables

First, the relationship between teacher motivation and gender was examined (See Table 4). According to the results, female teachers' mean values were 3.97 for perception and 4.87 for motivation. For male science teachers, the mean value was 3.98 for perception and 4.70 for motivation. In the perception dimension, both male and female teachers had the lowest mean value in the salary sub-dimension (M=2.53 and M= 2.85, respectively), while the highest mean value was in the difficulty sub-dimension for both group (M= 5.46 and M= 5.25, respectively). In terms of gender difference between the perceptions and motivations of female and male teachers, the difference was not statistically significant ($p>.05$). Yet, in the sub-dimensions, statistically significant difference was found in salary ($t(134) = 2.08$ $p< .05$) and in expertise ($t(134) = 2.41$, $p< .05$). While the difference in salary was in favor of male teachers, the difference in expertise sub-dimension was in favor of female teachers. In the motivation sub-dimensions, significant difference was found in the social influences ($t(134) = 2.10$ $p< .05$) and fallback career ($t(134) = 2.03$, $p< .05$) sub-dimensions. While the difference in fallback career was in favor of male teachers, the difference in the social influences was in favor of female teachers.

Table 4. T-test results of the relationship between gender and motivation

	Female		Male		
Sub- dimensions	***M***	***SS***	***M***	***SS***	***t***
Perception	3.97	0.51	3.98	0.58	0.16
Salary	2.53	0.82	2.85	0.96	2.08*
Difficulty	5.46	1.07	5.25	1.06	-1.12
Social status	3.05	0.93	3.11	0.96	0.36
Expertise	5.28	1.11	4.80	1.17	-2.41*
Social dissuasion	3.00	1.55	3.23	1.30	0.85
Satisfaction with choice	4.52	1.25	4.70	1.40	0.79

Motivation	4.87	.75	4.70	.76	1.27
Time for family	3.86	1.14	3.82	1.15	-0.22
Working with children	5.09	1.14	4.92	1.10	-0.83
Enhance social equity	4.97	1.11	4.80	1.24	-0.86
Intrinsic career value	5.31	1.21	5.14	1.34	-0.77
Job transferability	4.02	1.29	3.83	1.28	-0.84
Job security	4.38	1.07	4.24	1.17	-0.70
Shape future of students/adolescents	5.47	1.13	5.33	1.04	-0.75
Prior teaching experiences	5.29	1.19	5.16	1.18	-0.64
Social influences	4.31	1.34	3.79	1.48	-2.10*
Make social contribution	5.47	0.89	5.45	0.97	-0.13
Fallback career	2.61	1.49	3.18	1.41	2.03*
Ability	5.45	0.98	5.30	0.94	-0.92

* p< .05

An independent sample t-test was conducted to test the relationship between school location and science teachers' career motivation and results were given in Table 5. While the perception mean value of science teachers in schools in rural locations was 3.86, their motivation mean value was 5.10. Whereas the mean value of perception of science teachers working in urban location was determined as 4.00, the motivation mean value was 4.76. Whereas no statistically significant difference was found in the mean value of perception in the school location, a statistically significant difference was found in the motivation (t (134) = 2.21, p< .05). This difference was in favor of the teachers working in rural locations. In terms of sub-dimensions of perception, statistically significant differences were found in difficulty (t (134) =2.71, p< .01), social status (t (134) =2.34, p< .05) and social dissuasion (t (134) =1.99, p< .05). While the difference was in favor of teachers working in schools in urban schools in difficulty and social dissuasion, it was in favor of science teachers working in rural schools in social status. In the motivation sub-dimensions, statistically differences existed in enhance social equality (t (134) = 2.07, p< .05), shape of future of students (t (134) = 2.50, p< .05), prior teaching experiences (t (134) = 2.72, p < .01) and make social contribution (t (134) = 2.12, p< .05). The differences in these sub-dimensions were in favor of teachers working in rural schools.

Table 5. T-test results of the relationship between school location and career motivation

	Rural		**Urban**		
Sub- dimension	***M***	***SS***	***M***	***SS***	***t***
Perception	3.86	0.51	4.00	0.54	1.14
Salary	2.81	1.05	2.61	0.85	0.94
Difficulty	4.70	1.31	5.51	0.97	2.71**
Social status	3.43	0.83	3.06	2.06	2.34*
Expertise	5.18	1.28	5.10	1.13	.31
Social dissuasion	2.61	1.18	3.27	1.10	1.99*
Satisfaction with choice	4.70	1.31	4.56	1.31	.43
Motivation	5.10	0.61	4.76	0.77	2.21*
Time for family	3.90	1.07	3.84	1.16	.21
Working with children	5.42	1.01	4.96	1.13	1.74
Enhance social equity	5.32	1.09	4.84	1.15	2.07*
Intrinsic career value	5.34	1:50	5.23	1.21	.35
Job transferability	4.19	1.31	3.91	1.29	.92

Job security	4.59	0.91	4.28	1.14	1.16
Shape future of students/adolescents	5.86	0.81	5.34	1.13	2.50**
Prior teaching experiences	5.78	0.93	5.15	1.21	2.72**
Social influences	4.51	1.53	4.06	1.38	1.34
Make social contribution	5.84	0.88	5.40	0.91	2.12*
Fallback career	2.55	1.54	2.83	1.47	.80
Ability	5.37	0.97	5.40	0.97	.13

* p< .05, ** p< .01

A one-way ANOVA test was conducted to test the relationship between science teachers' professional experiences and career motivations and results were given in Table 6. No statistically significant difference was found in the perception and motivation (F (5,130) = 0.41, p> .05 for perception and F (5,130) =1.18, p>.05 for motivation). However, a statistically significant difference was found in the sub-dimension of job security. The post-hoc tests showed that this difference was between teachers with 11-15 years of experience and 21 and above, in favor of teachers with 11-15 years of teaching experience.

Table 6. ANOVA results of the relationship between professional experience and motivation

Sub-dimension	**0-5 y.**	**6-10 y.**	**11-15 y.**	**16-20 y.**	**21 y. +**	***F***
Perception	3.92	4.03	3.97	4.04	3.89	0.41
Salary	2.91	2.57	2.77	2.76	2.36	1.36
Difficulty	4.85	5.24	5.35	5.56	5.61	1.41
Social status	3.08	3.09	3.15	3.08	2.95	0.16
Expertise	4.59	5.45	5.06	5.15	4.92	1.54
Social dissuasion	3.27	3.22	2.91	2.99	3.13	0.25
Satisfaction with choice	4.82	4.62	4.55	4.70	4.37	0.36
Motivation	4.99	4.77	5.02	4.78	4.63	1.18
Time for family	3.43	4.01	3.94	3.85	3.71	0.70
Working with children	5.73	5.01	5.05	5.11	4.67	1.91
Enhance social equity	5.21	4.95	5.11	4.89	4.56	1.11
Intrinsic career value	5.73	5.30	5.39	5.32	4.79	1.52
Job transferability	4.12	3.88	4.22	3.98	3.65	0.81
Job security	4.45	4.36	4.68	4.44	3.76	2.97*
Shape future of students/adolescents	5.39	5.20	5.68	5.24	5.61	1.22
Prior teaching experiences	5.79	5.15	5.45	4.92	5.28	1.48
Social influences	4.03	4.09	4.28	4.20	3.98	0.21
Make social contribution	5.61	5.30	5.76	5.38	5.38	1.26
Fallback career	2.58	2.86	2.57	2.91	2.87	0.32
Ability	5.38	5.21	5.63	5.30	5.49	0.94

* p< .05, ** p< .01

CONCLUSION, DISCUSSION AND RECOMMENDATIONS

In this study, it was aimed to examine the relationship between science teachers' career perceptions and motivations and demographic variables. For this purpose, independent sample t-test and ANOVA tests were used to determine the differences on the level of career perception and motivation of science teachers, based on demographic variables including gender, school location and professional experience.

Descriptive findings of science teachers' career perceptions showed that teachers' perception levels (M = 3.98) were at a moderate level. Of the six sub-dimensions (salary, difficulty, social status, career expertise, social dissuasion, and satisfaction with choice), the salary has the lowest mean score, indicating that science teachers perceived their wages as low Similarly, in the study conducted by Deniz, Doğan and Şahin (2018), it was found that pre-service teachers viewed teachers' salary inadequate. Watt, Richardson, Klusman, Kunter, Beyer, Trautwein and Baumert (2012) similarly found that teachers working in the United States had low salaries but were satisfied with their career choices. Among the perception sub-dimensions, the difficulty sub-dimension had the highest mean. This finding showed that science teachers thought that their profession required a high level of expertise and technical knowledge; therefore, it was a difficult task. It seems that new changes with technological requirements urge teachers to develop themselves professionally and this may lead to teachers to see their job difficult.

It was seen that the motivation levels of the teachers were moderate. At the same time, it was found that teachers' career motivation mean scores were at a higher level than their career perception means. Memişoğlu and Kalay (2017) examined teachers' motivation and found that they were at a moderate level in parallel with our research. The results showed that among sub-dimensions of teacher career motivation; make social contribution and shape the future of students had the highest mean value while the lowest mean value was for fallback career. Consistent with this study, Kilinc, Watt, and Richardson (2012) reported that the highest mean was make social contribution (M =6.16), and the lowest was fallback career (M =3.07). The results of Teaching and Learning International Survey (TALIS) of Turkey in 2018 stated that Turkish teachers had the highest mean value on contributing to society (98.3%) and to the development of young people and children (97.8%), which was above the OECD average (TEDMEM, 2019). Similarly, Deniz, Doğan and Şahin (2018) supported our findings that the highest value among motivation dimension was the shape the future of children. Results of this study suggest that in Turkey the teaching profession is seen as a profession that serves the society, contributes to the society and has a reliable income. The high mean values of shape the future of students and make social contribution might show that the teaching profession differ from other professions. On the other hand, the lowest mean value in fallback suggests that teachers are most likely to not change their profession and not consider other professions in near future job and they prioritize teaching in their career choices.

Results showed that the career motivation of science teachers did not differ statistically in terms of gender. In the study conducted by Nokay (2019), it was concluded that teacher motivation did not show a significant difference based on gender. Similarly, Karaköse and Kocabaş (2006) reported that teachers' motivation did not differ significantly according to gender, professional experience, school level and age. In terms of sub-dimensions, a statistically significant difference was found in salary and expertise. While this difference in salary was in favor of male teachers, it was in favor of female teachers in expertise. This may be because female teachers tent to include more hands-on activities in science teaching (Ambusaidi, & Al- Farei, 2017). Incorporating hands-on activities in science education requires both economics and expertise. This may lead female teachers see their salary not enough for their expenses. A

significant difference was found in social influence and fallback career. In the social influence, the difference was in favor of female teachers, while in fallback career the difference was in favor of male teachers. The reason for the difference may be due to the fact that in society teaching profession seems to be identical for females rather than male. Moreover, female are more likely to choose profession focused on helping other people than do men (Watt, 2016).

Results showed that career motivations of science teachers statistically differed in their motivation and perception based on the school location. In motivation, the motivation of teachers who study in rural schools was higher than those who work in urban schools. In perception, teachers working in rural schools stated that they had more social status and felt less social dissuasion and difficulty compared to teachers working in urban schools. The reason for this difference may be less crowded classroom, the low educational level of the parents, and that parents and students valued teachers in rural areas. In the motivation, teachers working in rural schools stated that they were more motivated than the teachers in urban schools in terms of equality, shape the future of the students, make social contribution and previous experiences. The fact that the socioeconomic situation in the rural schools in Turkey is lower than in the urban schools may cause the science teachers to motivate them to contribute to the social status of the students. In addition, due to the high expectations from teachers in urban schools to be more successful (project school, etc.), teachers in urban schools may perceive the teaching profession more difficult and may feel their previous experiences are insufficient.

Motivation of science teachers according to their professional experience significantly differed only in job security. The difference in job security between teachers with 11-15 years and 21 years or more of experience may be due to economic reasons. Although the difference was not significant, the group with the lowest mean score in salary is the group of teachers with 21 years or more experience. In particular, teachers may have low motivation in the sub-dimension of job security due to reasons such as the cost of living, if they meet the needs of their adult children, and low pensions because teachers usually work in urban schools. In parallel with this study, according to TALIS (2018), there was no significant difference between teachers with five years or less experience and teachers with more than five years of experience. Consistent with the results of this study, Ateş and Buluç (2018) found that there was a significant difference in teacher motivation according to gender, there was no significant difference according to professional year.

Overall, results of this study suggest that motivation of science teachers may not be at satisfactory level considering the importance of motivation in terms of teacher quality. The fact that the salary dimension was the lowest among the career perception of science teachers suggests that teachers see salary low. Increasing teacher salaries can increase teacher motivation levels and indirectly increase the quality of education in the same direction. In order to increase this level of satisfaction, environments that support the teacher can be created. However, the excessive paperwork on teachers, the effort to catch up with the rapidly changing age, in-service courses taken in these directions, and the projects carried out by the Ministry of National Education can make the teaching profession difficult. For this reason, it can be noted that the distribution of work in schools is not focused on a single teacher. In the light of this study data, it can be deduced from the motivation sub-dimension averages of teachers that the teaching profession makes a social contribution to the society and affects the future of the students. Studies that will increase the professional satisfaction of teachers who perform such a lofty profession can be included in the 2023 Education Vision.

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