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Teachers' Job Motivation Resources: Scale Development Study

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Abstract. The aim of this study is to develop a measurement tool that determines the job motivation resources of teachers based on selected motivation theories. In this context, the measurement tool was prepared based on Herzberg's Two Factor Theory, McClelland's Theory of Needs, and Vroom's Expectancy Theory. Within the scope of the study, validity and reliability studies were conducted. For research validity; expert opinion was received, Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were conducted. EFA was performed with a group of 272 teachers and CFA was performed on a different working group of 417 teachers. Working groups were determined based on maximum diversity sampling method. According to the results of the structure validity of the research; the scale has five-factor structure consisting of 33 items. These factors were determined as "need", "belief", "power", "encouragement", and "achievement" respectively. It was concluded that this five-factor scale explained 66.21% of the variance. As a result of the CFA application, it has been observed that the scale shows good fit values in general. As a result of the applications and analyzes, it can be said that the scale is a valid and reliable scale and it has sufficient values in terms of psychometry.

Keywords: Teachers' job motivation resources, motivation theories, scale development.

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1. INTRODUCTION

Teachers' job motivation can be considered as an important component for professional knowledge and skills, educational resources and strategies, and teacher performance in terms of education systems. However, as it is closely related to student motivation (Pelletier, Séguin-Lévesque, & Legault, 2002) and many factors associated with school (Ofoegbu, 2004; Wentzel, & Miele, 2009), the determination and enhancement of teacher motivation are frequently brought up by researchers (Hoy, 2008; Müller, Alliata, & Benninghoff, 2009; Neves De Jesus, & Lens, 2005; Watt, & Richardson, 2008), practitioners, and policymakers.

Determining teachers' job motivation is of great significance in terms of meeting the basic needs of individuals through the profession and improving educational performance (Ololube, 2006). On the other hand, determination of job motivation appears to be an indispensable element for achieving educational goals, implementing educational reforms, and ensuring student motivation (Lunenburg, & Ornstein, 2013). However, the measurement of determinants and results of job motivation is stated to be complex because these motivational processes have various organizational and environmental barriers that cannot be directly observed and may impact target acquisitions (Bennell, 2004).

Regarding teachers' job motivation, the issues such as (i) the properties of the job, (ii) working conditions, and (iii) the image of the profession are mentioned as three common headings in both starting and leaving the profession (Müller et al., 2009). Kyriacou and Coulthard (2000) reached three main factors in motivational choices that encourage individuals to choose teaching as a profession. These were reported to be (1) internal reasons such as the transfer of knowledge and experience associated with teaching effectiveness, (2) external causes such as working conditions, autonomy, wage level, and occupational safety and status, and (3) altruistic reasons such as desire for making children successful and considering the teaching profession as a valuable job socially. Motivational factors such as expectations, values, and emotional elements are stated to have various effects on teachers' participation in professional learning activities (Thoonen, Sleegers, Oort, Peetsma, & Geijsel, 2011).

Hackman and Oldham (1976) discuss the intrinsic motivation process that allows individuals to work effectively in their work in terms of three variables. These are expressed as (a) the psychological states of the employees for the development of internally motivated work behaviors, (b) the properties of jobs that can create these psychological states, and (c) the qualities of the individual characteristics that determine how positively a person reacts to a complex and challenging task. As motivational processes have a complex structure with many factors, identification of motivational processes is quite complex and difficult in terms of the roles and responsibilities of teachers. Bishay (1996), who conducted many studies on teacher motivation and job satisfaction, argued that addressing teacher motivation in terms of only wages and rewards is an unsuccessful approach, but that this phenomenon is associated with trying

new ideas, taking on new responsibilities, and having an autonomous working environment.

The review of the literature indicates that various measurement tools related to teacher motivation have been developed, and the relationships between many variables associated with school such as job satisfaction, job stress, and student motivation have been investigated using these tools (Bishay, 1996; Davis, & Wilson, 2000; Fernet, Senécal, Guay, Marsh, & Dowson, 2008; Neves De Jesus, & Lens, 2005; Öztürk, & Uzunkol, 2013; Thoonen, Sleegers, Oort, Peetsma, & Geijsel, 2011; Yılmaz, 2009; Wu, 2012). There are many motivation related scales in the literature, some example measurement tools and their characteristics are given in Table 1.

Table 1.

Some measurement tools related to teacher motivation in the related literature

References	Measurement tool	Dimensions	Study group
Öztürk and Uzunkol (2013)	Elementary School Teacher Motivation Scale	• Positive attitudes towards the profession and professional achievement • Appreciation and professional happiness • Avoidance from the job • Internalizing the job	Elementary school teachers
Neves De Jesus and Lens (2005)	Teacher Motivation	• Professional participation • Target value • Expectation of success	Primary education teachers
Yılmaz (2009)	Teacher's Job Motivation	• Team harmony • Integration with the job • Institutional commitment • Personal development	Primary education teachers
Wu (2012)	Teacher Motivation	• Intrinsic motivation • Extrinsic motivation	Primary education teachers

The levels of teacher motivation are examined using these measurement tools, which are developed based on different theoretical approaches. The scale developed in this study, on the other hand, does not determine the existing motivation levels of the teachers; rather, it identifies factors that motivate teachers to work and the importance levels of these factors. On the other hand, in some studies aimed at directly measuring job motivation of teachers, it is seen that job motivation scales developed for other types of employees rather than teachers are used. (Ertürk, 2016; Yılmaz, 2009). Considering that teaching is a different professional field, studying with a group made up of only teachers is viewed as significant. Also, a specific scale that can be used for teachers of all educational levels has not been found in the literature. For all these reasons, there is a need for a measurement tool that determines the factors that motivate teachers and the degree of importance of these factors, but which is also synthesized from multiple motivation theories. Accordingly, this study aims to develop a measurement tool that determines the factors motivating teachers and synthesizes motivation theories. Also, this study, intending to develop such a scale, is thought to be a candidate for meeting an important need in the field. Understanding what and which processes motivate teachers and determining the importance level of motivational factors will make a considerable contribution to administrators, teachers and researchers. Besides, inspired by the motivational approaches synthesized theoretically, this study is thought to provide a comprehensive perspective to school administrators in terms of providing the opportunity to learn the sources of motivation of the teachers they work with.

Theoretical Background

There are many theories of motivation in the literature whose validity is accepted by researchers (Adams, 1965; Alderfer, 1972; Bandura, 1977, 1997; Herzberg, Mausner, & Snyderman, 1959; Locke, & Latham, 2002; Maslow, 1954; McClelland, 1961; McGregor, 1960; Vroom, 1964). Each theorist has come up with some conclusions based on their own experience of what motivates people. In this respect, each theory provides a different perspective on the phenomenon of motivation. Therefore, this study aimed to develop a synthesized job motivation scale for teachers to go beyond the narrow limitations of different perspectives of motivation theories and to integrate different approaches. In this context, the theoretical background of the scale was based on three motivation theories. These theories included (i) Herzberg's Two-Factor Theory, (ii) McClelland's Needs Theory, and (iii) Vroom's Expectancy Theory (Figure 1).

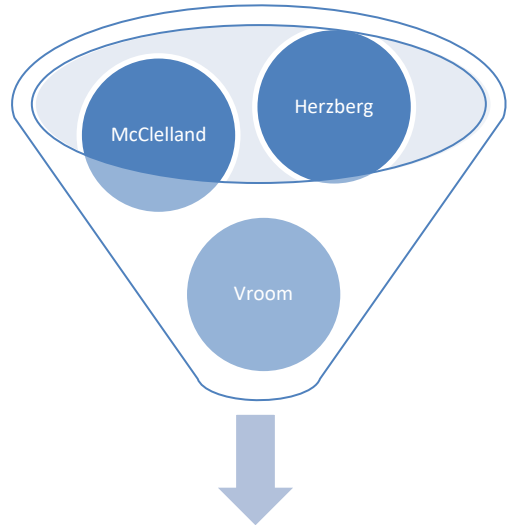

Figure 1. Theoretical Background

The choice of motivation theories on which the study was based relied on three main justifications. The first justification was that the selected motivation theories are the most commonly used theories in job motivation studies (Aksoy, 2006; Bassett-Jones, & Lloyd, 2005; Dieleman, Cuong, & Martineau, 2003; Udechukwu, 2009). The second justification was the motive to include both content and process motivation theories so that job motivation could be addressed from a holistic perspective (For example, while McClelland's needs theory is among the content theories, Vroom's expectancy theory is among the process theories). Motivation theories explain motivation in terms of the reasons that substantially motivate individuals (content theories) and the processes in which motivations come true (process theories). While the content theories of motivation focus on what motivates employees in the workplace, process theories center on how motivation occurs, that is, the motivation process (Lunenburg, & Ornstein, 2013). Given this characteristics, which the scale was built on, it will be possible to identify causal and process-oriented factors related to job motivation. Inspired by the view that motivational processes should synthesize new theories and approaches with old approaches and they should be evaluated with new paradigms, the last justification aimed to synthesize the old and new theories chronologically (Kanfer, 1990). In the light of these justifications, job motivation scale development process for teachers was based on the motivation theories of Herzberg, McClelland, and Vroom.

Conceptual Framework

Motivation is described as a process in which personal efforts involving energy, direction and determination for achieving a certain goal are laid out (Robbins, Decenzo, & Coulter, 2013). In this respect, according to Robbins et al. (2013), motivation includes three important elements: energy, direction and stability. A motivated person puts an

effort and consumes energy by working hard. The quality of this energy is as important as its intensity. To this end, efforts should be directed to the direction that benefits the organization. Finally, motivation requires a certain commitment. The efforts of employees spent for achieving the organizational objectives should have continuity (Robbins et al., 2013). The concept of job motivation stands out as a study area examined within the scope of motivation theories (Steers, Mowday, & Shapiro, 2004). Job motivation is generally defined as energetic power that is necessary to initiate work-related behaviors and to determine the form, direction, intensity and duration of the behaviors besides the existence of the individual. In other words, it is a psychological process stemming from the interaction between the individual and the environment (Latham, & Pinder, 2005).

This study was based on Herzberg's (1959) two-factor theory, McClelland's (1961) needs theory, and Vroom's (1964) expectancy theory to determine the job motivation sources of teachers. It is necessary to take a brief look at the theoretical assumptions of these motivation theories. Herzberg's two-factor theory is based on factors that lead to job satisfaction and job dissatisfaction. In their research, Herzberg, Mausner and Snyderman (1959) concluded that people's responses when they feel good about their work were significantly different from their responses when they feel bad. Accordingly, some traits were found to be related to job satisfaction, while others were related to job dissatisfaction. In this context, factors that motivate employees (those satisfying) and factors that cause job dissatisfaction (hygiene) were identified. Motivational factors include recognition, appreciation, success, quality of work, taking on authority and responsibility, and promotion opportunities. According to Herzberg et al. (1959), the presence of motivational factors accelerates the satisfaction of the individual, while hygiene factors (supervision, wage, status, organizational policies, working conditions, job security, interpersonal relationships and personal life) can be described as factors that eliminate dissatisfaction and calm employees rather than motivating them. In this context, hygiene factors can be considered as factors that protect people from dissatisfaction with their presence in the working environment, but they do not guarantee motivation. According to Herzberg et al., if we want to motivate individuals about their work, it is necessary to use motivational factors related to the work itself or its outcomes. These are internally rewarding factors.

In the theory of needs, McClelland (1961) argued that people had three acquired fundamental needs, namely (i) achievement, (ii) power and (iii) relationship. Robbins and Judge (2013) stated that the need for achievement was related to the development motive and the desire to reach some pre-defined standards. Robbins and Judge (2013) emphasized that need for power was associated with impacting others to manipulate and control their behaviors and need for relationship was related to establishing close and sincere relationships with others and the motive of belonging. According to this theory, individuals may have all or a few of these motives. In fact, in certain periods or situations, some motives may be more dominant than others. Within the context of this

theory, the most emphasized motive has been success motive and it has been the topic of various studies (Rudhumbu, 2014; Urdan and Maehr, 1995).

Finally, in Vroom's (1964) expectancy theory, individual behavior is described according to the values of the outcomes of the behavior perceived by the individual. Vroom examined job motivation in terms of process and conceptualized it in three stages: (i) the effort-performance relationship, (ii) the performance-reward relationship, and (iii) the reward-personal goals relationship. Accordingly, the individual is motivated when their efforts end up with a positive performance appraisal, when this performance is supported with awards such as wage increases, premiums, and promotions, and when these rewards are consistent with their personal goals. Within the expectancy theory, Robbins et al. (2013) argued that there was no universal principle that could explain individual motivation and that managers should understand what is attractive to employees.

2. METHOD

This research is a scale development study. In this context, it is aimed to develop a valid and reliable scale that measures teacher motivation. In this section, the scale development process is explained in detail.

Study Group

In this research, two different study groups were studied to perform Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). The study group for EFA consists of 272 teachers working at all levels (Table 2). In this context, it is aimed to reach maximum diversity by reaching teachers with different demographic characteristics (gender, age, etc.) and educational levels (preschool, primary school, etc.). The study group for CFA consists of 417 teachers. Descriptive statistics for the CFA study group are given in Table 3.

Table 2.

Descriptive statistics for the EFA study group

Demographic characteristics		f	%
Gender	Male	108	39.7
	Female	164	60.3
Age	21-30	86	31.6
	31-40	130	47.8
	41 and above	56	20.6

Educational level	Preschool	13	4.8
	Primary school	74	27.2
	Secondary school	130	47.8
	High school	55	20.2
	Total	272	100.0

According to Table 2, the EFA study group consists of teachers with different characteristics in terms of gender, age and educational level. In this context, female teachers (60.3%), 21-40 year- old teachers (79.4%) and secondary school teachers (47.8%) are in the majority.

Table 3.

Descriptive statistics for the CFA study group

Demographic characteristics		f	%
Gender	Male	149	35.7
	Female	268	64.3
Age	21-30	143	34.3
	31-40	197	47.2
	41 and above	77	18.5
Educational level	Preschool	13	3.1
	Primary school	112	26.8
	Secondary school	200	48
	High school	92	22.1
	Total	417	100

According to Table 3, the CFA study group consists of teachers with different characteristics in terms of gender, age and educational level. In this context, female teachers (64.3%), 21-40 year-old teachers (81.5%) and secondary school teachers (48.0%) are in the majority.

Development of Data Collection Tool

In the scale development process, firstly the literature was examined and the theories and contents related to the concept of motivation were investigated. Then, three commonly used theories that dominate the job motivation literature are identified. These theories are (i) Herzberg's Two-Factor Theory, (ii) McClelland's Theory of Needs, and (iii) Vroom's Expectation Theory. Then, the definitions and indicators in the theories were determined (Table 4). In order to facilitate the expression of these definitions and indicators, a group of 9 teachers were asked questions about what might motivate them for their profession. As a result of literature review and group work, a pool of 113 items was created by considering definitions and indicators related to job motivation.

Table 4.

Job Motivation Indicators

Theory	Indicators	Sample item
1. Herzberg's Two-Factor Theory	• Hygiene Factors (Company policies and management, supervision, relations with supervisors and colleagues, work conditions, wages, private life, status, security) • Motivation Factors (achievement, recognition, job itself, responsibility, promotion, development)	My job's being exciting
2. McClelland's Needs Theory	➢ Power ➢ Relationship ➢ Achievement	Giving me the opportunity to succeed in this school
3. Vroom's Expectancy Theory	✓ Effort-performance ✓ Performance-reward ✓ Reward-personal goal	My efforts' being recognized by this school

The scale form was determined by a three-stage strategy (Figure 2). Firstly, the 113-item form was evaluated by 4 experts in the field of educational administration, 1 expert in the field of measurement and evaluation, and 1 expert in the field of Turkish education.

As a result of expert evaluations, 33 items were removed from the form, 12 items were corrected and then the form was rearranged. Secondly, 25 teachers working at all educational levels were pre-applied on the 80-item form in order to determine the intelligibility of the research items by the study group. As a result of the pre-implementation, 25 items that were expressed by the teachers as ambiguous, unclear or containing more than one meaning were excluded from the scale. Finally, all items were examined by the researchers and the form consisting of 55 items was arranged as a 5-point Likert-type scale. This Likert-type scale was arranged as "none (1)", "less (2)", "slightly (3)", "too (4)" and "too much (5).

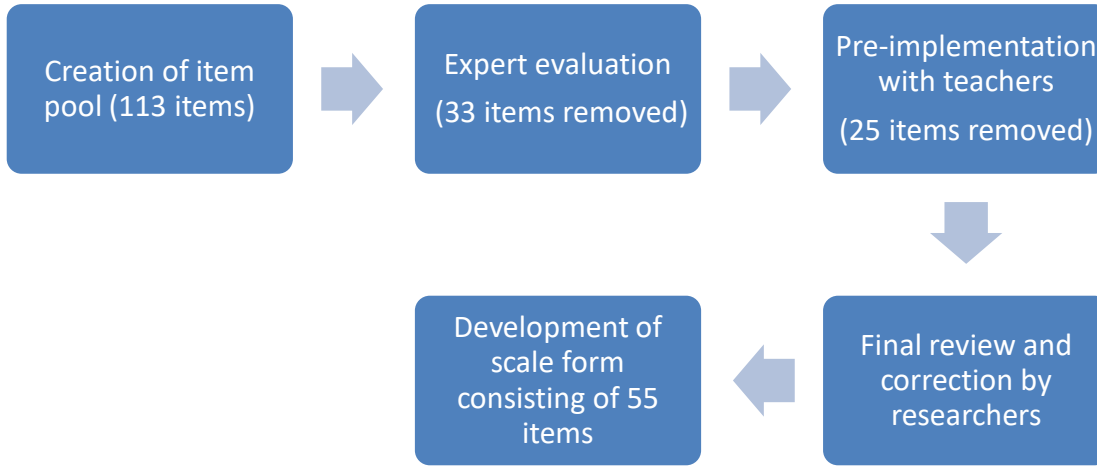

Figure 2. Scale development process

Data Collection and Analysis

Data collection was carried out online and in print by the researchers. In the first stage, a total of 272 data, 121 of which were online, and 151 of which were printed, were reached for the EFA study. After the first data collection process was completed, the data were arranged for Exploratory Factor Analysis and the missing data which were thought to be incorrect or incomplete were assigned according to EM algorithm. During the analysis process, data extraction, exploratory factor analysis and reliability analyzes were implemented.

Following the completion of the initial analyzes, 420 additional questionnaires were administered to teachers in order to reach at least ten times the number of items through the questionnaires that were reprinted for the CFA. After the data cleaning

process, 3 questionnaires were excluded from the data set due to incomplete questionnaires and CFA was implemented with the remaining 417 questionnaires.

3. FINDINGS

Findings on Validity

The validity study was carried out in three stages. Firstly, the validity of the scope before the application was examined. In order to ensure the content validity, the pool of items was examined by two field experts. As a result of the investigations, the proposed additions and subtractions were made and the validity of the content of the three theories was ensured.

Secondly, Exploratory Factor Analysis (EFA) was conducted to test the construct validity. KMO coefficient and Bartlett's Sphericity test were calculated to determine the suitability of the research data for performing EFA. KMO value was determined as .96. When the literature is examined, it is stated that .50 or .60 value is base value for KMO. For example, Kaiser (1974) states that KMO value greater than .50 may be sufficient to perform factor analysis. In this case, the observed KMO value of .96 is higher than the recommended KMO value. The Bartlett's Sphericity test is a statistical technique used to check whether research data come from a multivariate normal distribution. Thus, that chi-square test statistic is significant indicates that the data comes from a normal multivariate distribution. Bartlett test was found to be significant (x^2 = 11939.04; $p \leq .00$) as the result of the anlysis conducted in the scope of this research. In this context, it can be said that the trial form data of the scale is suitable for Exploratory Factor Analysis.

Table 5.

First EFA Factor Load Values and Common Factor Variance

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8
Eigenvalues	25.37	2.65	2.29	1.83	1.50	1.32	1.20	1.02
Described Variance	46.13	4.82	4.17	3.33	2.73	2.40	2.18	1.87
Described Total Variance	67.63							

As a result of Exploratory Factor Analysis, the eigenvalue of the scale was gathered under 8 factors which are greater than 1 (Table 5). The variance explained by these 8 factors in the scale is 67.63%. When Exploratory Factor Analysis was performed based on varimax rotation, it was observed that some items did not load any factors, some items loaded more than one factor, and some load values were below .40 and these

items were removed from the scale and EFA was repeated. As a result of the second EFA, it was observed that the remaining 33 items were collected in 5 factors based on varimax rotation (Figure 3).

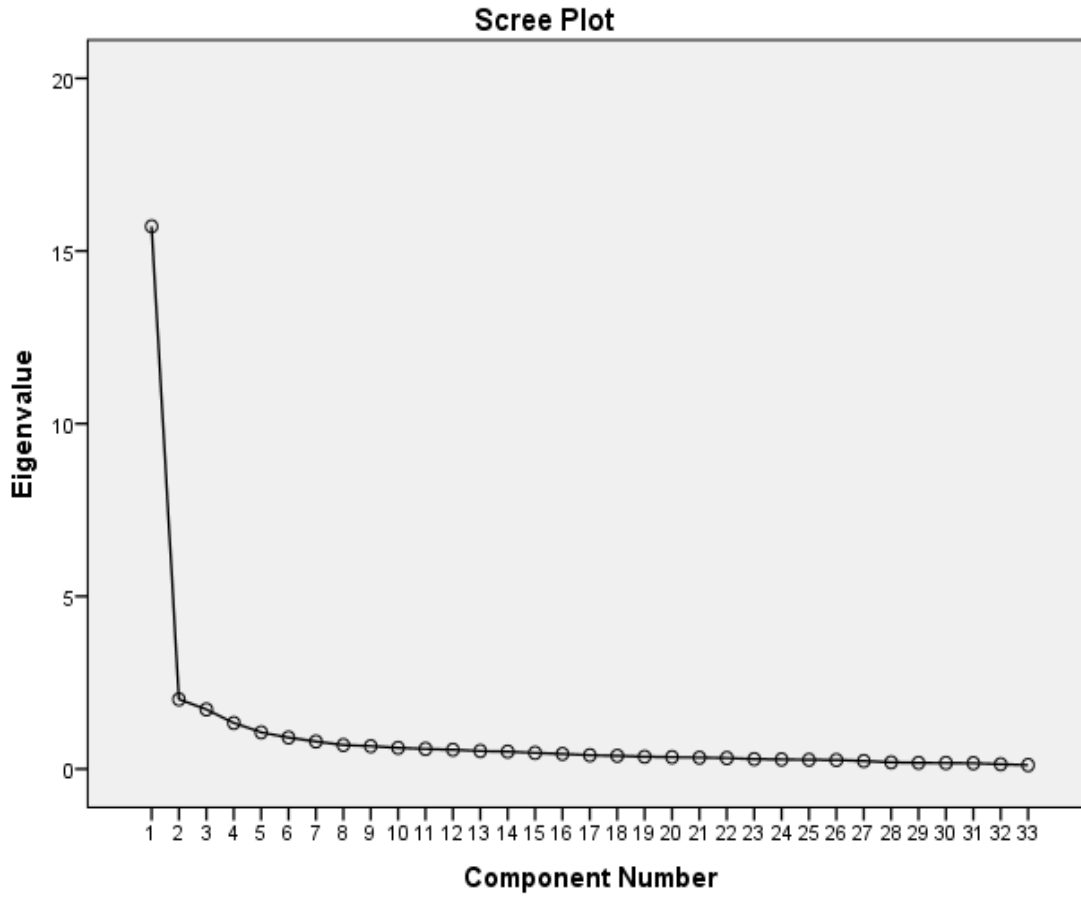

Figure 3. Scree Plot

Table 6 presents the factor loadings of the items related to the second EFA. It is expressed that for an item to be represented in a factor, the factor load should be at least .40 (DeVellis, 2003). Accordingly, the first dimension factor load consists of 14 items ranging from .47 to .77; the second dimension factor load consists of 8 items ranging from .55 to .78; the third dimension factor load consists of 5 items ranging from .49 to .81; the fourth dimension factor load consists of 3 items ranging from .74 to .79; and the fifth dimension factor load consists of 3 items ranging from .65 to .77. All factors explain 66.21% of the total variance. The first factor is 23.62% of the total variance; the second factor accounts for 16.58% of the total variance; the third factor is 9.51% of the total variance; the fourth factor explains 9.18% of the total variance and the fifth factor explains 7.32% of the total variance.

Table 6.

Second EFA Factor Load Values and Common Factor Variance

Factor Name	Item	Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Need	58	The school's being clean	.770				
	56	The school's being safe	.757				
	59	Having a democratic atmosphere in the school	.746				
	57	Having appropriate temperature in the school	.736				
	66	Encouraging innovation in this school	.731				
	67	My administrators' supporting new ideas	.714				
	60	School management's support in my efforts for students	.685				
	44	Possibility of self-development in this school	.669				
	38	Ensuring my work safety	.656				
	64	Having social activities in this school	.653				
	15	Having sufficient course materials in	.628				

		this school			
	42	Feeling myself safe	.611		
	69	School management's interest in my problems	.598		
	12	Colleagues' supporting each other in this school	.473		
Belief	37	My job's having an important purpose		.781	
	51	The effect of teaching profession on human life		.739	
	39	My job's being worth doing		.725	
	50	Having responsibilities towards society		.703	
	36	Feeling myself happy when I do my job well		.686	
	14	My profession's being beneficial to society		.685	
	52	My job's being exciting		.633	
	16	Having fun doing my job		.551	
Power	17	Having active duties in extra-curricular times			.811
	18	Having working environment outside the course			.685
	24	Having the power			.578

		to influence activities at this school					
	23	Having responsibilities in activities at this school			.567		
	71	Having authority over others			.492		
Encouragement	10	My efforts' being recognized by this school				.792	
	13	My work's being regarded by the school management				.768	
	20	My efforts' being rewarded by this school				.748	
Achievement	5	Having something that pushes me to work hard					.770
	3	Giving me the opportunity to succeed in this school					.671
	6	Getting support for my participation in scientific/ academic activities					.657
		Eigenvalues	15.71	2.02	1.73	1.33	1.06
		Described Variance	23.62	16.58	9.51	9.18	7.32
		Described Total Variance	66.21				

In order to verify the construct validity of the scale, Confirmatory Factor Analysis (CFA) was used. Within the scope of CFA, a new sample of 420 teachers was reached and data

were collected again. 3 questionnaires were discarded due to non-compliance and missing values were examined and assigned to missing data in the remaining 417 data set. CFA was performed with a final sample of 417 people. Following the creation of a model for the analysis, after the necessary modifications were made between the items of the same size within the specified limits (not exceeding 3), CFA was performed with Lisrel 8.80 program. Table 7 presents the findings obtained from the Confirmatory Factor Analysis of the scale.

Table 7.

Results of Confirmatory Factor Analysis of Job Motivation Scale

Factor/Item	t-value	Standardized Loads	R^2
Need			
I5	15.36	.60	.36
I8	16.82	.76	.58
I17	19.83	.74	.66
I19	17.44	.66	.43
I20	19.02	.80	.64
I24	19.80	.75	.56
I25	13.43	.58	.34
I26	15.50	.66	.43
I27	20.45	.76	.58
I28	21.48	.80	.64
I29	17.80	.73	.53
I30	20.90	.81	.66
I31	22.25	.84	.70
I32	16.26	.71	.50
Belief			
I7	17.23	.51	.26
I9	15.89	.64	.41
I15	17.49	.52	.27
I16	19.53	.60	.36
I18	18.03	.57	.32
I21	15.75	.54	.29
I22	18.71	.55	.30
I23	15.78	.59	.35

Power			
I10	11.89	.59	.35
I11	14.32	.68	.46
I13	15.96	.70	.49
I14	17.95	.76	.58
I33	9.78	.55	.30
Encouragement			
I4	19.25	.83	.69
I6	19.41	.83	.69
I12	17.72	.90	.81
Achievement			
I1	16.47	.64	.41
I2	15.45	.67	.45
I3	19.60	.86	.74

As can be seen in Table 7, t-values of latent variables for explaining observed variables are significant (t> 1,96, p <.01). According to Çokluk, Şekercioğlu and Büyüköztürk (2012), parameter estimates are significant at the level of 0.01 if t-values exceed 2.56. According to Jöreskog and Sörbom (1993), t-value less than 1.96 with a margin of error of 0.05 is considered meaningless. When standardized loads are examined, it is seen that there is a moderate and higher relationship between each observed variable (item) and latent variable (dimension) (r> 0.30, p <.01). Correlations of 0.30 and higher calculated for the validity coefficient can be considered as an indicator of the validity of the items included in the test (Büyüköztürk, 2012). When the validity coefficients of the job motivation scale were examined, it was seen that the items of the scale had a valid value for each dimension (r> .30, p <.01).

The variability in the dimension of need is explained mostly by Item 31 'My administrators' supporting new ideas'(70%). The variability in the belief dimension is mostly explained by Item 9 'Having fun while doing my job' (41%). The variability in the dimension of power is mostly explained by Item14 'Having the power to influence activities in this school' (58%). The variability regarding the encouragement dimension is mostly explained by Item 12 'My efforts' being rewarded by this school' (81%). The variability of achievement dimension is mostly explained by Item 3 'Getting support for my participation in scientific activities / academic activities' (74%).

Critical N value, which evaluates the adequacy of the research sample number, was calculated as 173,23. This value shows that the sample of 417 units used in the research is sufficient.

When the suggestions of modification resulting from the analyses are examined, two modification proposals have emerged between I25 and I26, and I10 and I11. Theoretically, it was thought that these items measure similar situations, so that a hidden relationship between two items would be acceptable and the modification proposal was considered. Modification procedures were carried out among the items which were predicted to make high contribution to the model respectively. Table 8 shows the fit indexes resulting from CFA to the whole scale.

Table 8.

Confirmatory Factor Analysis Fit Indexes of Job Motivation Scale

Model	X^2	$(X^2/sd)^*$	RMSEA	SRMR	NNFI	CFI	GFI	AGFI
Job Motivation	1401.04	2.90	.068	.046	.98	.98	.83	.80

*sd = 483, $p < 0,01$

When the fit indexes given in Table 8 are examined, it is seen that the 5-factor structure of the job motivation scale consisting of 33 items generally shows good fit values, these values are acceptable and validated as a model. Kline (2011) states that χ2/sd between 2 and 3, indicates that the model fits perfectly, in this study, χ2/sd value is 2.90, which shows that the model has perfect fit. In large samples, χ2/sd can be used as a criterion for proficiency (Çokluk et al., 2012). However, in addition to the χ2/sd value, it is beneficial to take other fit indices into account (Çelik, & Yılmaz, 2013). According to Çelik and Yılmaz (2013), the mean square root agreement (RMSEA) values between .05 and .08 show that the model has adequate fit. SRMR value (.046) in the study indicates good agreement in structural equation modeling (Çelik, & Yılmaz, 2013). According to Sümer (2000), .98 NNFI value shows a perfect fit. Among the incremental fit indexes, .98 CFI is an indicator of perfect fit (Hu and Bentler, 1999). From the absolute fit indexes .83 GFI and .80 AGFI values are indicative of acceptable compliance (Anderson, & Gerbing, 1984). Figure 4 gives a road diagram of the CFA results of the job motivation scale:

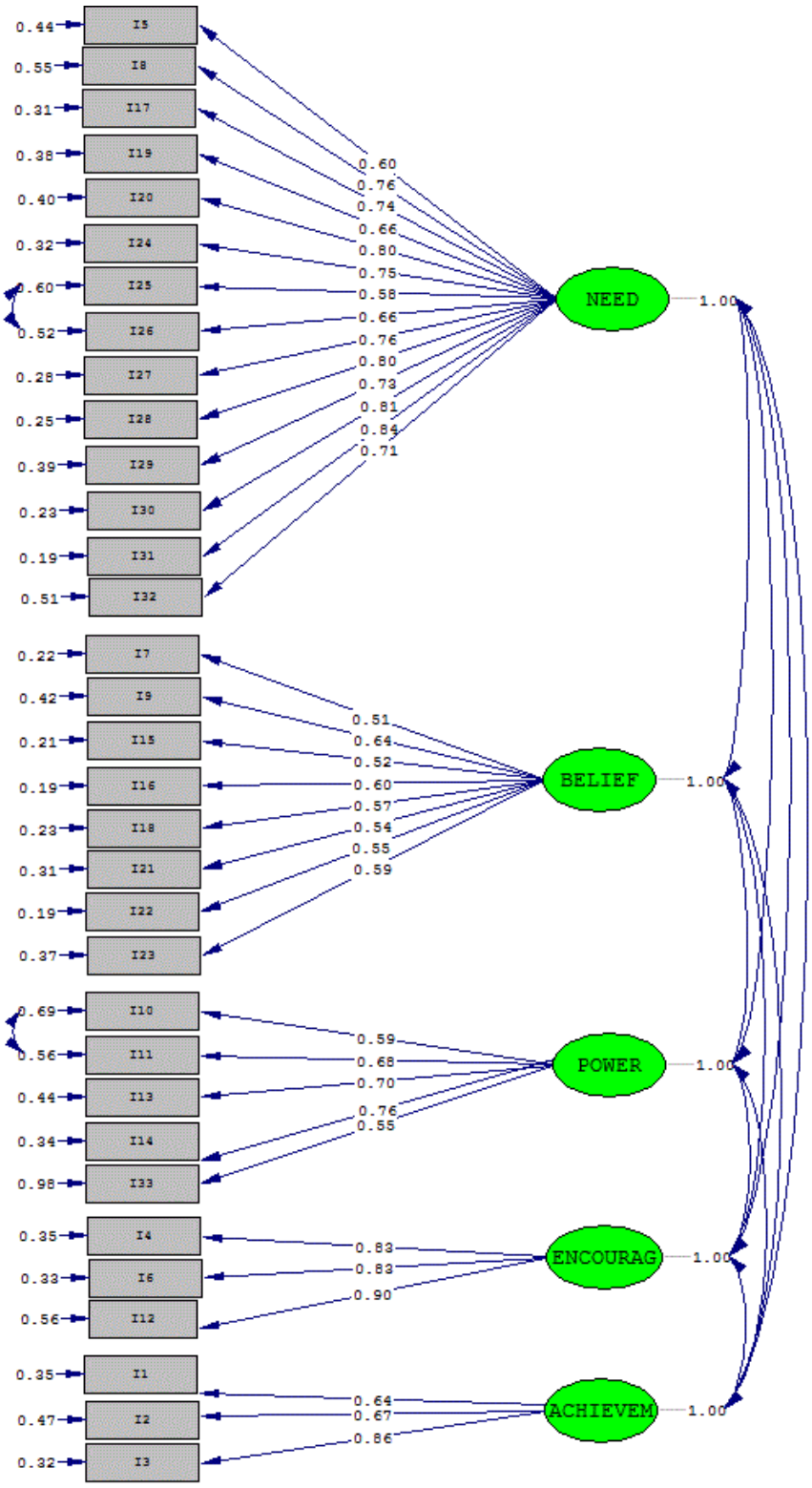

Figure 4. CFA Road Diagram

Findings on Realibility

First, item-total correlations were calculated to determine whether each item in the scale measures the property it wants to measure (Table 9). Secondly, Independent Samples T-Test was performed among the sub-top groups to determine how well each item in the scale was able to distinguish individuals in terms of the characteristics they measured (Table 10). Finally, Cronbach alpha internal consistency coefficient was examined to determine the reliability of the scale. Item-total correlations and Crα reliability coefficients for each sub-dimension are presented in Table 9 for each item in the scale.

Table 9.

Item-Total Correlations and Cronbach Alpha Reliability Coefficients

Factors and Items	$\overline{X}$	S	Item-Total Correlation	Cronbach Alpha Reliability Coefficient When Item Subtracted
Factor 1: Need				
(α = .96)				
58	4.17	1.02	.66	.96
56	4.20	.96	.78	.96
59	4.26	.93	.78	.96
57	4.07	1.03	.62	.96
66	4.10	.98	.82	.96
67	4.14	1.01	.84	.96
60	4.17	.97	.81	.96
44	3.90	1.03	.77	.96
38	4.15	.93	.80	.96
64	3.97	1.00	.71	.96
15	3.90	1.12	.69	.96
42	4.22	.90	.68	.96
69	3.98	1.04	.71	.96
12	4.20	.87	.69	.96

Factor 2: Belief (α = .90)				
37	4.52	.77	.64	.96
51	4.48	.71	.64	.96
39	4.47	.74	.60	.96
50	4.31	.81	.55	.96
36	4.53	.74	.62	.96
14	4.60	.70	.59	.96
52	4.21	.87	.60	.96
16	4.28	.87	.65	.96
Factor 3: Power (α = .79)				
17	3.50	1.01	.45	.96
18	3.68	1.03	.61	.96
24	3.76	.95	.64	.96
23	3.71	.96	.63	.96
71	3.16	1.13	.38	.96
Factor 4: Encouragement (α = .86)				
10	3.93	1.04	.60	.96
13	3.99	1.06	.64	.96
20	3.53	1.18	.60	.96
Factor 5: Achievement (α = .86)				
5	3.91	.95	.60	.96
3	4.06	.91	.64	.96
6	3.94	1.04	.69	.96
Cronbach Alpha (Scale) α = .96				

In general, .70 or higher reliability coefficients for each factor are considered sufficient for reliability (Nunnally, 1978). Crα reliability of the whole scale was determined as .96. In addition, it has been found that Crα of the first factor is .96; Crα of the second factor is .90; Crα of the third factor is .79; Crα of the fourth factor is .86 and Crα of the fifth factor is .86. All these findings indicate that the scale has satisfactory reliability.

In the analysis of the 33 items that constitute the five dimensions resulting from the factor analysis, it is examined (i) whether the selected items serve the purpose of measuring the desired property to be measured and (ii) whether they distinguish the individuals with the desired property to be measured or not. In this context, the results of the item analysis presented in Table 9 were first examined in order to determine whether the scale items serve the purpose of measuring the desired property. According to this; when item-total test correlations were examined in the need factor, the values were between (r = .62) and (r = .84); values in the belief factor were between (r = .55) and (r = .65); power factor values were between (r = .38) and (r = .64); encouragement factor values were between (r = .60) and (r = .64) and success factor values were between (r = .60) to (r = .69). In terms of the validity of the scale items, item total correlations of .30 and higher are considered as evidence (Nunnally and Bernstein, 1994). In this respect, when item-total test correlations were examined, the fact that the desired correlation coefficients existed (r> .30) for each item could be interpreted as serving the purpose of measuring the property to be measured.

Table 10.

T-Test Results by Sub and Top Groups

Groups	*n*	$\overline{X}$	*S*	*t*	sd	*p*
27% Sub-group	73	105.71	15.90	-25.86	84.62	.00*
27% Top-group	79	155.90	4.91			

* $p \leq .05$

Secondly, it is investigated whether the test distinguishes the individuals with the desired characteristics to be measured or not (Table 10). In this context, 27% sub and top groups are determined according to the rankings and the difference between the groups is examined. According to Table 10, there is a significant difference between the top and sub groups in favor of the top groups (t = -25.86, p ≤ .05). This difference is a desirable situation and can be interpreted as the test distinguishes the teachers who have the desired characteristics to be measured.

4. CONCLUSION AND SUGGESTIONS

In this study, it is aimed to develop a new scale in order to determine the teachers' job motivation levels based on three generally accepted theories of motivation in the literature. The scale development process consisted of several stages such as literature review, preliminary application, expert opinion and various statistical analyzes. The developed scale was found to have a five-factor structure. These factors were determined as "need", "belief", "power", "encouragement" and "achievement", respectively. It was concluded that this five-factor scale explained 66.21% of the variance. It is seen that these factors coincide with the motivation factors indicated by the researchers in the literature. It can be said that motivation factors are compatible with the psychological characteristics of the employees, the conditions of the work and the individual characteristics (Hackman, & Oldman, 1976). Especially in terms of teachers' job motivation, as stated by Müller et al. (2009), it includes the characteristics of the work, working conditions and the image of the profession. Similarly, it is seen that the intrinsic motivation elements (such as the transfer of knowledge and experience related to teaching activities), which are emphasized by Kyriacou and Coulthard (2000), are similar to the dimensions of power, achievement and encouragement. On the other hand, it can be said that external motivation elements (such as working conditions, autonomy, wage level, job security and status) coincide with the need dimension. Finally, it can be said that the idea of being a valuable profession that affects the achievement of children has similar characteristics with the belief dimension. The strength of this scale is that it is based on both motivational theories and research findings. On the other hand, it can be said that this scale is a unique scale because it is intended to determine the motivating factors rather than the motivation levels of teachers in terms of teachers' job motivation.

As a result of the CFA to confirm this structure, the fit indexes were examined and it was observed that the 5-factor structure of the scale consisting of 33 items was generally in good fit. As a result of the applications and analyzes, it can be said that the scale is a valid and reliable scale and has sufficient values in terms of psychometry. In other words, a measurement tool has been developed for teachers to be used in the studies related to job motivation. Using the scale by the researchers will make significant contributions to the measurement power. In addition, testing the scale on different samples will be useful in reaching stronger indicators.

As a result, this scale can be used to determine job motivation factors of teachers in all levels and branches in public and private educational institutions. It can be stated that the high scores to be taken from the scale will indicate the primary factors for teachers' job motivation.

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