School Administrators` Professional Motivation Scale: Validity and Reliability Study

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Abstract

This study was conducted with the aim of developing the School Administrators' Professional Motivation Scale. Prepared with the opinion of the field experts. The feedback form collected information from 12 school administrators who work as teachers and who represent the people in the sample. By using the data obtained together with expert opinions, a pool of 61 items was created. Expert opinions were consulted to ensure content validity. Three items similar to each other and unrelated to attitude were removed from the scale. After the corrections were made, the item pool was reduced to 58 items. The scale data were collected from 307 school administrators who were teaching in Istanbul and Yalova provinces during the spring semester of 2016-2017. The KMO value of the scale was determined to be 0,910. As a result of the factor analysis, it was determined that 42 scale items were collected in five factors and the total variance of the scale showed 57,78%.42 items that are higher than. 40 were included in the scale. Five factors of the scale and the load of items in their last state consisting of 42 items were between. 42 and. 75. The Cronbach's Alpha coefficient of the final scale was calculated as 0,81 and was found to be credible. The test-re-test reliability coefficient of the scale was calculated as .40 and a moderate correlation was found. The results of item analysis based on the average of the upper and lower groups of all the items in the scale were found to be significantly distinctive (p <.05). This study is thought to contribute to the field.

Keywords: Motivation, Professional Motivation, Attitude, Scale Development

Introduction

Together with the innovations in the curriculum and the application area which were brought to the educational environment, some changes have occurred in the information access and the structure of institutions. This change affects many systems in the society and urges them to keep pace with this development. Schools come at the forefront of institutions that coordinate with these changes and developments and can adapt individuals to the 21st century learning and teaching skills (Akçay, 2003). Schools are innovative organizations that respond to the demands of the individuals. In this way, the staff in the school work within the framework of the institution's goals, sharing their experiences and providing their loyalty. The school administrators unite the school staff within this target frame and determine the plan to reach the goals of the institution (Çelikten, 2001).

As schools lose their monopoly in the generation and presentation of knowledge in the traditional approach and different organizations emerge to offer instructional services, this leads to the questioning of performance of schools as well as to increased competition in the face of schools. In this context, management and structure of schools and responsibilities of school managers have changed considerably. It is not possible for school managers to respond to the requirements of the era with traditional management conceptions. Yet, schools and school managers will be able to survive in the future only by adopting the roles that comply with the requirements of changes (Andero, 2001). For this reason, school managers should go beyond merely performing their tasks assigned to them and start implementing efforts to ensure the survival of their schools.

Management is the use of human and material resources of the institutions in the most effective and efficient way for reaching the goals of the

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institution (Taymaz, 2003). In order to reach the goals of the schools in the management of the educational process which is accepted as the basis of our current educational system, school administrators should completely fulfill their duties and responsibilities (Aytaç, 2006). School administrators are responsible for the organization and development of student services, staff services, educational and training services, general and administrative services, financial services and school-parent relationships (Çelikten, 2001). School administrators also have responsibilities in the areas of motivating staff and teachers in their profession and collaborative work, to bring the personnel together for corporate goals, and to improve the process of education. (Güney, 2001). School administrators are important because they can be effective in the success of their institutions and in the field of student training. For, school administrators manage, change and plan the future of the institutions they run by means of knowledge and skills they obtain in theory and practice. This leads to changes within the institutions (Gareis & Tschannen-Moran, 2005). One of the main duties of the institution administrators is to determine the internal needs of the responsible personnel and try to solve these situations. In the institutions where working administrators do not manage this kind of situations well or are not aware of them, the problems experienced by teachers and staff are negatively reflected on their behaviors, productivity, motivations and in-house interactions. This situation results in poor performance of individuals, ineffectiveness of work and lack of motivation aimed at the institution (Öztürk & Dündar, 2003).

The traditional management approach is concerned with short-term performance of an organization, provides external rewards and sanctions, is characterized with explicit coordination and control, focuses on problem-solving, and deals with tangible and intangible assets. A modern management approach, on the other hand, is concerned with core, long-term performance of an organization, provides internal rewards, is characterized with implicit coordination and control, and deals with social and psychological capital (Mullins, 2007). Today, management increasingly dispenses with the traditional approach to lend greater emphasis on human beings (Asar & Çelikten, 2016). Currently, skills of managers to communicate with and share information with employees are emphasized (Daft, 2010).

In the transition from the traditional to modern management approach, schools are also under pressure in terms of raising individual who can keep up with the pace of the world (NPBEA, 2015). For

Murphy (1990), radical changes to the education system complicates the task of school managers. In assessing school managers, trust-based managerial relationship, preference for research-based leadership standards for school managers, collection of data in the light of multifaceted approaches and performances attained, judgments and decisions that rely on performance of school managers, supported with data, can be used as assessment criteria (Derrington & Sanders, 2011).

The school administrators who undertake these responsibilities, guide the society and with their attitudes bring up the generation directed to the future of a society, should not ignore their professional and personal growth during all their lives (Kaya, 1996). In this context, they should continuously improve themselves and increase their knowledge and skills according to changing circumstances. Since today's teachers and students are expected to have such skills of the 21st century as problem-solving, creativity, ability to work in a collaborative environment, critical thinking, access to information and adaptability to new situations. (Günüç, Odabaşı & Kuzu, 2013). It is also expected that teachers and students should have computer, media and information literacy skills to follow the technological innovations during the information age (Thomas, Ge & Greene, 2011). In the school environment the duties to acquire these skills fall upon the system administrators. In order for school administrators to provide these environments to their teachers and students, their professional motivations must be at a high level. The high motivation of school administrators is important for themselves and the individuals they are responsible for to fulfil work in a useful and effective way (Geen, 1995). It is also significant for individuals to have profession aimed motivations in order to be successful and efficient in their lives. The motivation of the individual is related to his/her engagement in an activity, desire to see the result of the performed activity, and the efforts made during this process. For this reason, there is a relation between the personality traits of the person and the expectations from the work. In other words, the individual is influenced by his work and the work is influenced by the individual. This interaction takes place in the work environment and in the process of work (Karip & Köksal, 1999). For this reason, professional motivation is considered to be an important condition for school administrators.

The last 30 years have seen numerous educational reforms that sought to raise the achievement standards for students. Due to the

confusion created by these reforms and the ever-changing school environment, school principals play increasingly important roles in improving student results, and therefore, international education show increased interest in school managers (Day et al., 2016).

The future of the countries depends on the schools that will operate at full capacity (Öztürk & Dündar, 2003). The implementation of the intended plans and achievement of the targeted performance in schools is especially related to the satisfaction of the school administrators in their institutions. Aytaç (2006) states that school administrators should be highly motivated to improve the quality, to increase the output and to fulfill the goals of education they have set for the individuals and the management they are responsible for. In his writing concerning this subject, there are motivational theories developed by various scientists that determine the factors affecting the motivation of individuals. For example, according to Maslow, there are five important factors that influence the motivation of individuals. These factors are: *Physiological Needs*, *Safety Needs*, *Social Needs*, *Self-Realization* and *Self-Actualization* needs (Kaynak, 1995). According to Maslow these needs appear in ordered levels. After a certain period of time when the individual meets his basic needs, this need no longer motivates him, so he strives to meet his need at the higher level. A different motivation theory is the *Two Factor Theory* developed by Frederic Herzberg (Kurt, 2005). This theory shows similarity to Maslow's approach of hierarchy of needs and is intended to explain motivation. Both theories act on the assumption that the requirements of the individual have emerged in a certain order. Motivation factors according to Herzberg are *Success*, *Recognition*, *Progress*, *Job Itself*, *Responsibility and Development*. Hanks (1991) approached motivation from a different point of view and stated that if there is no motivation in the individual, there will be no change in itself and the targeted results will not be achieved. From these theories it is possible to characterize motivation as behaviors that are revealed to encourage individuals towards intended purpose. Motivation refers to incentives and motives provided to an individual for performing an action. Motivation is the sum of all factors that triggers an individual to action (Adair, 2013). Work motivation refers to psychological processes that affect behaviors of individuals. The consequences of work motivation are complicated as there many organizational and environmental factors that affect these psychological processes (Bennell & Akyeampong, 2007). These are the processes which

urge, direct and encourage individuals to work for attainment of certain goals by increasing work concentration and willingness (Robbins, 2000). Motivation is the notion which includes needs, goals, desires, satisfaction, motivational events and interests (Başaran, 1982). Eren (2010) has established that motivation is a force that directs the behaviors of the individual and that it influences the organism and enables it to act for some target. Motivation ensures that individuals are self-sacrificing and willing to work (Asar, 2018). It also enables the individual to use their skills and abilities at full capacity. With motivation the individual abolishes the sad situations that he/she experiences but can not transfer to the outside world. It helps the individual to get out of the sad situation and to behave happily. Motivation is a performance-related situation. Individuals with high motivation levels show high output in their professional performance (Koçel, 2005).

Motivation is of crucial importance for management. Therefore, researchers in management science focus on studies that will increase motivation of employees. Managers, too, are supposed to comply with these efforts (Robbins & Coulter, 2016). The school principals with professional motivation indicate that they are eager to make more progress, and they find the task entertaining and it is beneficial to exert greater efforts (Schaufeli & Bakker, 2004). For this reason, it is likely that teachers see school principals as positive role models encouraging them to come up with creative ideas (Amabile, 1996). Payne and Wolfson (2000) suggest that school principals should act as role-models for their schools by discussing potential ways for the development of their schools and success of students. Amabile et al. (1996) conclude that principals become positive role-models by promoting creativeness of their subordinates.

Although the implementation of educational systems and rules in schools is theoretically the same in every school, there are practical differences (Kaya, 1996). This is related to the existence of school administrators and the fulfillment of their responsibilities. Performed studies showed that the fulfillment of the school administrators' responsibilities is the first factor of success in schools (Geen, 1995; Karip & Köksal, 1999; Thomas, Ge and Greene, 2011). School administrators need to obtain high motivation in order to achieve corporate success and expected administrative qualities. For, in the literature, school administrators with high motivation have positive reflection on their work in professional environment and management

environment (Goleman, Boyatzis & Mckee, 2002; Thomas, Ge and Greene, 2011). In order to determine what the concept of motivation is aimed at, the behaviors of individuals in their daily lives are observed and it is reviewed according to what this behavior is being changed (Geen, 1995). In this context, it is important to reveal the factors that affect school administrators' motivation levels.

The principals with professional motivation are likely to create a motivating and interesting environment for teachers (Carlson et al., 2011). Therefore, opportunities should be provided to teachers so that they can be energetic and creative while working. In the schools managed by the principals who have professional motivation, teachers are supposed to come up with new ideas. At the same time, teachers' belief that their ideas will be beneficial will increase. In line with this assumption, it was found that the principals who are identified with their work are more likely to create a work environment with new ideas and innovations for their employees (Carlson et al., 2011). Several studies reported that principals contribute to the creativeness of their employees (for instance, Gümüşlüoğlu & İlsev, 2009). Bakker and Demerouti (2008) found that students indicate that their principals with professional motivation have inspiring and encouraging qualities. In addition, it was found that in cases where communication sample is as high as expected, performance results of professional motivation are contagious and beneficial (Bakker & Xanthopoulou, 2009).

If the motivation of the school administrators is low, the problems that may arise will cause irregularities in the institution and will have a negative impact on the training of the students with targeted skills. In this case, the factors that can affect the motivation of school administrators should be known. Accordingly, there is a necessity to develop a scale to determine the professional motivations of school administrators. This research is thought to contribute to the work that should be done in the field of professional motivation.

Method
Model and Study Group
This research was conducted in the general screening model. The screening method aimed at achieving wide participation in attitude development studies could be applied. In this context, scale data were gathered from a total of 321 people, who served as school administrators during spring semester of 2016-2017 in central and district schools of Yalova provinces. Approval has been obtained from the Yalova Governorate for

conducting the questionnaire and this approval has been sent to all school managers. It has been stated that participation in the question-naire would be on a voluntary basis. Of 402 school managers in the province of Yalova, 321 have responded back. The sample size should be at least 100 in order to conduct factor analysis. Nevertheless, 300 as the sample size is considered "good" (Aksu, Eser & Güzeller, 2017). The number of people in the study group is well suited to the size of the sample to ensure that factor analysis can be performed.

Stages of Measurement Tool Development
In the scale development process, first, a literature survey focused on attitude scales related to motivation and professional motivation and attitude focused on motivation was performed. A feedback form consisting of seven open-ended questions was prepared taking into account the opinion of the field experts. Some of the managers representing the people in the sample have been briefed about the form. The data were collected by sending the form to 12 school managers who volunteered to fill out the form. It was expected that in this feedback form school administrators would express their feelings, thoughts and behaviors related to professional motivation. The data gathered from school administrators were analyzed and attitudes were revealed. At this point, a draft scale containing 61 attitude statements was created. The scale in the draft was sent to the instructors who worked as field specialists in various universities for the purpose of obtaining expert opinions. In accordance with the experts' opinions and proposals, non-attitudinal items and similar items were removed from the scale. After the made corrections, the last state of the scale consisted of 58 items. The Likert type of scale is the method frequently used when various affective characteristics are measured with high reliability and validity (Büyüköztürk, 2011). However, the person to who the Likert type of scale is applied gives information about the level of participation related to some attitude (Can, 2014). The created items are of the fivefold Likert type and are rated as: I disagree (5), mostly disagree (4), not quite agree (3), mostly agree (2), agree (1).

The test-re-test reliability coefficient of the scale was calculated as .40 and a moderate correlation was found. As seen in the table below, Pearson product-moment analysis was performed to see if the data obtained after the pilot application and the main application were correlated as per the 42 items in the scale.

The correlation value was found as r=0.403. In

the interpretation of the correlation value, the values between 0 and +0.29 indicate weak correlation, between +0.30 and +0.49 moderate correlation, between +0.50 and 0.69 strong correlation, and between +0.70 and +1.0 perfect correlation. Thus, it can be said that the correlation value between the pilot and main applications (r=+0.403) signifies a positive, moderate correlation. The correlation between the first and last test of the scale was performed. The test-re-test reliability coefficient of the scale was calculated as .40 and a moderate correlation was found. Factor analysis, item analysis, item analysis based on the average of upper and lower groups, internal coefficient of consistence and correlation coefficients between the factors were examined and the scale was finalized. The five factors of the scale and the load of the last 42 items are between .42 and .75. The scores obtained from each item are summed and the total score of the scale is calculated. A person with a positive attitude could get a maximum score of 210 from the scale, while the lowest score from the scale was .42.

Data Analysis

After applying the School Administrators` Professional Motivation Scale to the study group, statistical analyzes were performed to reveal the psychometric properties of the scale. First, the structural validity of the scale was examined. For this purpose, Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were applied. The reliability of the School Administrators` Professional Motivation Scale was examined by internal consistency and test retest method. In order to determine the distinctiveness levels of the items in the School Administrators` Professional Motivation Scale, the corrected total item correlation was calculated and included 27% of comparisons of the upper and lower groups. The data of the study were analyzed using SPSS 21.0 and LISREL 8.1 package programs.

Results

Structure Validity

In this study, Exploratory Factor Analysis and Confirmatory Factor Analysis were applied to investigate the validity of the School Administrators` Professional Motivation Scale.

Results Related to Exploratory Factor Analysis

Before proceeding with the exploratory factor analysis, the sample was checked for being suitable to normal distribution. After the completion of normality test as the result of answers of 308 participants, such values as mode, median, mean,

skewness and kurtosis coefficients (Skewness = -0,345, Kurtosis = 0,66) were found to be among appropriate values (Can, 2014). According to these results, with the data obtained the exploratory factor analysis can be carried out.

First, the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Barlett's Sphericity Test were applied within the scope of Abstract Factor Analysis to determine whether the data set was suitable for factor analysis, in order to test the structure validity of the School Administrators` Professional Motivation Scale. It is observed that the KMO value for School Administrators` Professional Motivation Scale is .65 and the result of Barlett's sphericity test is meaningful ($\chi2$ = 20734,369, p< .001). In this context, it shows that the data are appropriate for the AFA.

In order to determine the factor structure of the School Administrators` Professional Motivation Scale consisting of 58 items, Principal Component Analysis was performed using the varimax rotation method. At the end of varimax analysis, seven major factors with eigenvalue bigger than 1 were found in the scale. As the result of the performed factor analysis, Factor eigenvalues were calculated (Table 2).

Seven factors above the eigenvalue of 1.00 according to the data obtained from the factor analysis account for 65,752% of the variance in the scale scores. The Scree plot was examined to determine how many factors would be involved in the scale (Figure 1).
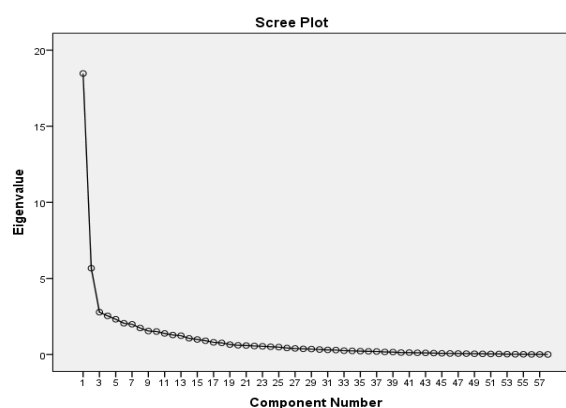

Figure 1. **Scree Plot of Exploratory Factor Analysis**

In the literature there is a widespread view that the minimum size for the factor load value of an item is .30 (Büyüköztürk, 2010). In this context, the breakpoint determined by motion is .30. In this context, it is observed that the 10th, 13th, 20th, 23rd, 28th, 38th, 42nd, 49th and 51st items are loaded with values close to two factors, and 31th,

32nd, 35th, 39th, 40th, 45th and 46th item were removed due to being similar. It is a good criterion for the factor loading to be .40 or above for the selection of an item (Büyüköztürk, 2013). On the other hand, the items with a factor loading less than .10 are considered as overlapping. As only one aspect of each item is to be measured, the overlapping items should be removed from the scale (Aksu, Eser and Güzeller, 2017). The factor analysis was conducted with the remaining 42 items.

Factor analysis for the 42-item form of the School Administrators` Professional Motivation Scale revealed that KMO (.91) and Barlett's values ($\chi 2$ = 2051.67, p< .001) were found appropriate. As a result of the Principal Component Analysis using the Varimax rotation method, a five-factor structure was obtained which accounted for 54.78% of the total variance. The total variance explained of the first factor was 21,83%, 13,77% of the second factor, 8,79% of the third factor, 7,38% of the fourth factor and 5,99% of the fifth factor. All of the scale items explain 57.78% of the total variance.

Detailed results on the structure validity of the School Administrators` Professional Motivation Scale are summarized in Table 3.

When Table 3 is examined, it is seen that the item total correlation values of all items are higher than 0,40. It has been determined that the factor loads of the items vary between .42 and .75.

As a result of the factor analysis, the scale items come together to measure the common feature. In this context, the factors were named by taking the opinions of the field experts and examining the studies in the field literature by taking into consideration the characteristics of the items that came together for the School Administrators` Professional Motivation Scale. In this context, the first factor is called "Dimension of Relationship at Work". This dimension measures the communication of school administrators with other individuals in the institutions where they perform their duties and how the results of team work contribute to professional motivation. The second factor was called " Responsibility Dimension". This dimension measures how school administrators contribute to professional motivation by measuring the responsibilities of staff, students, parents, and duties in the institution in which they work. The third dimension is named "Material Dimension". This dimension was created to indicate the financial possibilities of the administrative profession and how the financial possibilities of the institution in which they work, affect the professional motivation of school administrators. The fourth dimension is called "Success Dimension". With this dimension, it is aimed to examine the effect of the teachers and

students` achievements in the institution on professional motivation. The fifth dimension is called "Professional Dimension". With this dimension, it is aimed to examine how the characteristics and scope of the school management profession affect the professional motivation of the school administrators.

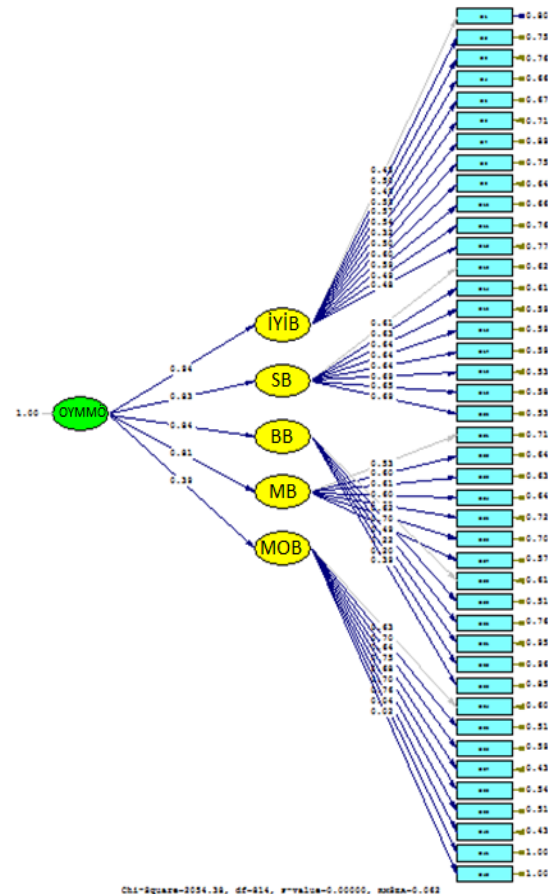**Confirmatory Factor Analysis Results**

Figure 2. Confirmatory Factor Analysis Results

The value of p showing the significant level indicates whether the difference between the expected covariance matrix and the observed covariance matrix is significant. In CFA, p value should be significant (Karagöz, 2017). In the present study, p=.000 was found to be p<.05. Therefore, the difference between the expected covariance matrix and the observed covariance matrix is significant. The fit indices of the model are presented in Table 4.

In CFA, first, the chi-squared (X2) test is performed to evaluate the fit indices. If the ratio of chi-squared value to the degree of freedom is below 3, this means perfect fit (Karagöz, 2017). In the present study, this ratio was found to be 2.52,

implying perfect fit.

The RMSEA is the root mean square error of approximation. It has values ranging between 0 and 1. The RMSEA values below 0.10 mean good fit (Şimşek, 2007). In the present study, the RMSEA was found to be 0.06, implying good fit.

The CFI gives the difference between the model established assuming no relationship between variables and the null model. It is a model that assumes no relationship between the variables (Munro, 2005). The CFI is one of the most popular structural equation models and ranges between 0 and 1. A CFI value between 0.90 and 0.95 is regarded as acceptable (Schermelleh-Engel, Moosbrugger & Muller, 2003). In the present study, the CFI value was found to be 0.93, indicating an acceptable fit.

The NFI is the normed fit index. It shows the ratio of the test chi-squared value to the chi-squared value of the independent model (Karagöz, 2017). In the present study, the NFI value was found to be 0.89. In addition, the non-normed fit index (NNFI) was calculated to be 0.92. For Hu and Bentler (1999), NFI and NNFI values that are higher than 0.90 are acceptable. The values found in the present study indicate acceptable fit.

The SRMR is the standardized root mean square residual. The values closer to zero indicate good fit of the model. The SRMR values below 0.05 means good fit while those that are between 0.05 and 0.08 are acceptable (Munro, 2005). The SRMR value of 0.08 found in the present study indicates acceptable fit.

Reliability Analysis

The Cronbach's alpha coefficient was evaluated for the reliability analysis of the scale. The Cronbach's alpha reliability coefficient is used when item are weighted or scored with degrees (Karagöz, 2017). If the Cronbach's alpha coefficient is between 0.80 and 1, the scale has high reliability, whereas if the Cronbach's alpha coefficient is between 0.60 and 0.79, it has reliability. The values between 0 and 0.39 indicate that the scale is not reliable (Büyüköztürk, 2013). In this context, the Cronbach's alpha coefficient values for the total scale and as well as its sub-dimensions are presented in Table 5.

As indicated in Table 5, the Cronbach`s Alpha coefficient of the Dimension of Relationship at Work is 0,80, the Cronbach`s Alpha coefficient of the Responsibility Dimension is 0,77, the Cronbach`s Alpha coefficient of the Material Dimension is 0,79, the Cronbach`s Alpha coefficient of Success Dimension is 0,74, the Cronbach`s Alpha coefficient of the Professional Dimension was found to be 0,84. The total Cronbach`s Alpha coefficient of the Professional Motivation Scale was determined to be

0,81. As a result of the reliability analysis performed according to these values, the scale subdimensions and the reliable output of the whole scale were determined.

Lower-upper Group validity

Another reliability study was the comparison of 27% lower group and the 27% upper group. The averages of the 27% lower (154) and upper 27% (154) groups were analyzed by t-test to see if there was a significant difference between the groups. As a result of the analysis, it was found that there is a statistically significant difference between the upper and lower groups.

Conclusions

This study aimed to develop the Professional Motivation of School Managers Scale, and the draft form of the 58-item scale was administered to 321 school managers. After removing non-eligible forms, 307 forms were used for analysis. Using the data collected from 307 school managers, the item analysis was performed based on sub-group and supergroup averages, and internal consistency coefficient and correlation coefficients between the factors were examined. For inclusion in the scale, a factor loading higher than .40 was sought for items. The items other than 42 items with a factor loading higher than .40 were removed from the draft form. Thus, the Professional Motivation Scale was finalized with 42 items with a factor loading ranging between .42 and .75. The CFA was performed to verify the construct attained with the EFA. As a result of the CFA, the scale was found to be acceptable. The Cronbach's alpha reliability coefficient for the scale was calculated to be .870. The results of the analysis of the items based on the sub-group and supergroup averages of all items included in the scale were found to be different in a statistically significant manner (p<.05).

In the present study, a construct with five sub-scales that explained 54.78% of the total variance was obtained. Of the total variance, the Workplace Relationships Sub-scale explained 21.83%, the Responsibility Sub-scale 13.77%, the Materialistic Sub-scale 8.79%, the Success Sub-scale 7.38% and the Professional Characteristics Sub-scale 5.99%. In other words, the professional motivation of school managers is explained and affected most by the Workplace Relationships Sub-scale. All of the scale items explain 57.78% of the total variance. The Responsibility Sub-scale has the second highest effect on the Professional Motivations of School Managers. The Professional Characteristics Sub-

scale has the lowest effect on the Professional Motivation of School Managers. The relationships at school have a higher effect on the professional motivations of school managers than materialistic aspects, success or professional characteristics. Good relationships with school staff, parents or teachers have a higher effect on the professional motivations of school managers.

In the CFA, the value of chi-square (x2), as the first examined fit index, was found to be 2.52, signifying perfect fit. The RMSEA value was calculated as 0.06, showing good fit. The CFI value gives the difference between the model assuming no relationship between the variable and the null model. In the present study, an acceptable fit was obtained with the CFI value which was found as 0.93. In other words, this implies that there are relationships among the variables. The SRMR values which are close to zero indicate better fit for the model. The SRMR value of 0.08 found in the present study shows an acceptable fit for the model. As these figures indicate, there is a (perfect, good and acceptable) fit and relationship between the model created as part of the study and the variables.

In the sub-group and supergroup validity analysis, a statistically significant difference was found between the sub-group and supergrop. In other words, all sub-group total scores can distinguish the individuals in the sub-group and supergroup.

It is seen that the internal coefficients of consistency of the five factors obtained in accordance with the purpose of the work are above .70 and that these factors make consistent measurements within themselves. As a result of the enhanced scale, the five factors affecting professional motivation of the school administrators can be determined in line with the collected data and the solution obtained by this data can be developed. At the end of this study, School Administrators` Professional Motivation scale was developed as valid and reliable. The valid and reliable developed scale can be used as a scale to measure professional motivation. In addition, the data obtained by using this professional motivation scale can be designed to relate to different variables that affect professional motivation. Based on the Cronbach's alpha reliability results, the Professional Motivation of School Managers Scale can be used by other researchers to measure the professional motivation of school managers.

In the literature, motivation is determined as the most important key in the realization of goals. Even if despite all efforts, people can not achieve their goal, they are able to do their best with the motivation they obtain, they can reveal their talents and skills and to achieve the indescribable happiness and satisfaction. In order for the person to have the motivation they need, there must be the goals they want to achieve. Taking action is defined as the beginning of reaching the intended goal (Canpolat, 2011). This situation is also confronted in similar educational environments. School administrators are the most important people who will activate the personnel in the educational environment and provide motivation to increase the performance of the school. It is closely related to the level of motivation that school administrators have to achieve success.

Aytaç (2006) stressed that the professional motivation of school principals should be kept at a high level at all times in order to improve quality in schools and attain the specified goals. Hanks (1991) argued that individual will not be able to maintain the processes of development and change if they lack motivation. Eren (2010) determined motivation as a major factor that affects behaviors of individuals.

The results of this study have certain theoretical and practical implications. Bennell and Akyeampong (2007) concluded that the consequences of work motivation are complex, as there many organizational and environmental factors that affect these psychological processes. Likewise, the present study confirmed the multifaceted nature of motivation of school principals. In other words, principals had different motives for taking part in work activities. Therefore, these results contribute to the understanding of why school principals chose to become principals (or resign from this position).

Second, determination of a special measure for professional measure makes it possible to correctly analyze work motivation experienced by principals having different aspects of their jobs. Schaufeli and Bakker (2004) argued that the school principals having professional motivation are motivating and eager to work more in order to be successful. Bakker and Demerouti (2008) maintained that the school principals with professional motivation are inspiring and open to innovation that leads to success. Unlike these studies, the present study portrays professional problems and their negative impact on professional motivation. Eventually, this conceptualization helps us improve our understanding, predictions and interventions regard positive aspects of professional motivation or its positive aspects for the principals suffer from professional problems.

Third, it is possible to make sense of the reasons why principals participate in work roles. Carlson et

al. (2011) reported that if principal have professional motivation, this make positive contributions to success. As principals are required to overcome all sorts of transformation at schools (for instance, restructuring and reforms) in recent years, this measurement tool may be used to target the repercussions of these changes based on different professional motivations accurately. For example, pedagogical changes (e.g., curriculum), decreases in resources (human, financial and material) and changes to the school arrangement form (e.g., accountability policies, distribution of responsibilities and authorities, assessment of students and teachers, reorganization of school boards) are very likely to affect motivation of principals. However, such changes are not likely to affect all principles in the same manner. This scale may be used to correctly evaluate the effects of changes on various work roles of principles. Such an analysis will not only facilitate the implementation of transformational changes at the school, but also offer new solutions and way to preserve the motivation of principals and ensure successful development of the school.

As a limitation of the study, it should be noted that the data were collected from 321 active school managers in the provinces of Istanbul and Yalova including the districts in the 2016-2017 spring term. It was not possible to include managers from different years and in greater numbers. Future studies may be conducted in different provinces and with a higher number of school managers. The study's having the school managers only in two provinces as participants was considered a limitation of the study.

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Tables

Table 1. **Pearson's Product-Moment Reliability Analysis Results in the Pilot and Main Applications**

		Pilot_Application	Main_Application
Pilot_Application	Pearson's Correlation	1	**.403****
	Sig. (2-tailed)		.008
	N	42	42

**. Correlation is significant at the 0.01 level (2-tailed).

Table 2. **Factor Analysis Results for the Scale**

Factors	Factor Eigenvalues	Explained Variance %	Cumulative Variance %
1	18,466	21,837	21,837
2	5,670	13,775	35,612
3	2,782	8,797	44,409
4	2,543	7,385	51,794
5	2,317	5,994	57,788
6	2,051	4,537	62,325
7	1,988	3,427	65,752

Table 3. **Factor distribution of items and explained variance percentages**

Materials	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
M3	,702				
M6	,688				
M7	,683				
M9	,660				
M16	,601				
M24	,598				
M33	,586				
M34	,585				
M44	,508				
M52	,490				
M53	,436				
M58	,421				
Factor 2					
M11		,754			
M12		,702			
M18		,689			
M22		,673			
M27		,659			
M47		,616			
M50		,605			
M55		,579			
Factor 3					
M4			,743		
M5			,707		
M8			,688		
M15			,621		
M30			,545		
M41			,489		
M43			,420		
Factor 4					
M2				,689	
M25				,643	
M26				,598	
M29				,546	
M48				,503	
M57				,480	
Factor 5					,746
M1					,653
M14					,543
M17					,541
M19					,502
M21					,493
M36					,487
M37					,466
M54					,430
M56					,425

Table 4. **Results of confirmatory factor analysis**

Index	Perfect Compliance Criteria	Acceptable Compliance Criteria	Research Findings	Results
$\chi^2/_{sd}$	0-3	3-5	2,52	Perfect compliance
RMSEA	.00 ≤ RMSEA ≤ .05	.05 ≤ RMSEA ≤ .10	.06	Good compliance
CFI	.95 ≤ CFI ≤ 1.00	.90 ≤ CFI ≤ .95	.93	Good compliance
NNFI	.95 ≤ NNFI (TLI) ≤ 1.00	.90 ≤ NNFI (TLI) ≤ .95	.92	Perfect compliance
NFI	.95 ≤ NFI ≤ 1.00	.90 ≤ NFI ≤ .95	.89	Good compliance
SRMR	.00 ≤ SRMR ≤ .05	.05 ≤ SRMR ≤ .08	.08	Good compliance

Source: Schumacker & Lomax, 1996

Table 5. **Results of Cronbach`s Alpha Reliability Scale Analysis**

Factor	Number of Items	Cronbach's Alfa(α)
Dimension of Relationship at Work	12	0,80
Responsibility Dimension	8	0,77
Material Dimension	7	0,79
Success Dimension	6	0,74
Professional Dimension	9	0,84
Professional Motivation Scale	42	0,81